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WASTAGE AND STAGNATION IN PRIMARY AND MIDDLE SCHOOLS IN INDIA. PROJECT REPORT.

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THE EXTENT OF WASTAGE (DROPOUTS) AND STAGNATION (GRADE REPETITION) AT THE PRIMARY AND MIDDLE STAGES OF EDUCATION, THE CAUSES OF WASTAGE, AND THE RELATIVE IMPORTANCE OF EACH CAUSE WERE INVESTIGATED IN INDIA. THE STUDY IS AN OUTCOME OF COLLABORATION BETWEEN INDIA'S NATIONAL COUNCIL OF EDUCATIONAL RESEARCH AND TRAINING, AND THE U.S. OFFICE OF EDUCATION. BACKGROUND MATERIAL, INCLUDING AN ANALYSIS OF THE PROBLEM AND A REVIEW OF RELATED STUDIES, IS PRESENTED. THE EXTENT OF WASTAGE WAS DETERMINED ON THE BASIS OF NATIONAL ENROLLMENT IN EACH GRADE FOR THE YEARS 1950-51 THROUGH 1963-64. DATA FROM SCHOOL RECORDS AND INTERVIEWS WITH PUPILS, PARENTS, AND TEACHERS WERE ANALYZED UNDER THREE AREAS HYPOTHESIZED AS COVERING THE POSSIBLE CAUSES OF DROPPING OUT. PUPIL AND FAMILY FACTORS WERE STUDIED BY STATISTICALLY ANALYZING DIFFERENCES BETWEEN DROPOUTS AND STAYINS. SCHOOL FACTORS WERE ANALYZED IN RELATION TO THE RATE OF DROPOUT IN EACH OF THE SAMPLE SCHOOLS. THE RELATIVE IMPORTANCE OF EACH DETERMINED CAUSE WAS RATED BY DISCRIMINANT FUNCTION ANALYSIS AND OPINION POLL. RECOMMENDATIONS AND SUGGESTIONS FOR RESEARCH ARE GIVEN. (PS)

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WASTAGE AND STAGNATION IN PRIMARY AND MIDDLE SCHOOLS IN INDIA

(PROJECT REPORT)

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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WASTAGE AND STAGNATION IN PRIMARY AND MIDDLE SCHOOLS IN INDIA

(PROJECT REPORT)

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FOREWORD

An element of wastage is inevitable in any system that takes the human factor into account. This is also true of educational systems, although here the extent of wastage is subject to wide variation. Most advanced countries have succeeded in reducing the element of wastage considerably through remedial measures aimed at eliminating the causes. In still developing countries, on the other hand, the wastage in education is excessive enough to merit anxiety, and in consequence, some serious thinking on the subject.

In India the extent of wastage, particularly in the primary schools has assumed alarming proportions as can be seen from the All-India figures of grade-wise enrolment for the period 1950-1964.* These figures show that the incidence of wastage and stagnation is highest in the lower primary grades, particularly in Grade I where of 100 pupils enrolled about 39 drop out or stagnate. When we consider the fact that wastage and stagnation have continued to persist in spite of an increase in the total expenditure on the qualitative improvement of education at the primary level, the problem appears to be even more critical. A number of factors, or rather a combination of factors, is believed to be responsible for this problem but the exact causal relationships between these factors have not been identified through earlier investigations.

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* The Ministry of Education, Education in India, Vol.II, for revelant years, Delhi: Manager of Publications, Government of India.

In response to this long-felt need, the Department of Educational Administration of the National Council of Educational Research and Training undertook in 1964, a research project on Wastage and Stagnation in Primary and Middle Schools in India. The United States Department of Health, Education and Welfare collaborated in this venture, and a draft report was completed in September, 1966.

The main object of the study was to identify the causes of wastage and to determine the relative importance of each cause. A subsidiary aim was to ascertain the incidence of wastage and stagnation at both the primary and the middle school levels.

A panel of experts, namely, Dr. (Mrs.) Madhuri R. Shah, Mr. A.H. Hemrajani and Mr. Dwarika Singh took considerable pains to scrutinize the report with a view to maximizing its utility, and N.C.E.R.T. is grateful to them for their contribution. N.C.E.R.T. also appreciates the work done by Dr. S.N. Mukerji, Mr. R.C. Sharma, Mr. C.L. Sapra and other members of the research staff to complete this project successfully and to prepare the report.

I hope this study will stimulate further thinking and research on the serious problem of educational wastage in this country and contribute in some measure to its ultimate elimination.

L.S. CHANDRAKANT
Joint Director
National Council of Educational
Research and Training

PREFACE

High incidence of wastage and stagnation in our schools poses a social and economic problem at the local, state and national levels. Serious concern has been voiced from time to time over the apalling dimensions of this problem by statesmen, parents, teachers and educationists. The solution to the problem involves the development of a suitable action programme which would enable the educational authorities to increase schooling efficiency so as to minimize the extent of stagnation and to take appropriate remedial measures to retain children in school till they complete the last grade of elementary education.

However, before the proposed action programme is developed, it is necessary to collect the relevant data to determine the magnitude of the problem and to identify and analyse its causes. The present study was undertaken to accomplish these objectives.

The study is the outcome of joint endeavour and collaboration between the National Council of Educational Research & Training and the Office of Education of the Department of Health, Education and Welfare of the United States Government.

The findings of the study suggest certain measures which have implications to improve the current educational policies and practices to reduce the extent of wastage and stagnation in Indian schools. It is hoped that this study would provide insights to research workers to make serious probes into the problem and guidelines to educational administrators to take remedial steps.

We express our sincere appreciation to the United States Government for providing the financial support. We gratefully acknowledge the cooperation extended to us by the teachers and headmasters of selected schools, the staff of Primary Extension Service Centres Karnal, Udaipur and Solan, and that of the Delhi and Bombay Municipal Corporations, throughout the study. We express our special gratitude to hundreds of students and parents who participated in the study. We are indebted to Dr. J. Paul Leonard, Dr. Daniel Schrieber and Dr. Mitchel Wade for providing some material useful and relevant to the study. Grateful thanks are also due to Mr. J.P. Naik, Mr. Raja Roy Singh, Dr. Albert J. Perrelli, Dr. Harold Webster, Dr. Shib K. Mitra, Dr. M.B. Buch, Dr. R.G. Misra, Dr. R.N. Mehrotra, Dr. (Mrs.) Chitra Naik, Shri Nasim Ansari, Dr. and Mrs. S. Shukla, Dr. A.B.L. Srivastava, Dr. T.S. Rao, Mr. H.B. Majumdar, Mr. C.S. Subbarao and many others for providing advice almost regularly on the different aspects of the project and for making valuable suggestions. Mr. R.K. Mathur of the Department of Psychological Foundations (NCERT) developed computer programme for discriminant function analysis for which he deserves special compliment.

Mr. R.C. Sharma served as Principal Investigator of the project from January, 1964 to August, 1965. In early September, he left for the United States of America for advanced studies. Mr. C.L. Sapra took over as Principal Investigator and continued till the completion of the project in September, 1966. I express my sincere appreciation of the excellent work done by Mr. R.C. Sharma and Mr. C.L. Sapra, the Principal Investigators, and other members of the project staff whose names appear on the first inner page of the report.

S.N. MUKERJI
PROJECT DIRECTOR

INTRODUCTION

Wastage and stagnation are the two evils that have continued to plague our educational system for long. Needless to say, the goal of universaal education for all children up to the age of 14 (directive principle under Article 45 of the Indian Constitution) can be realized within a reasonable period of time, notwithstanding our meagre resources, if the extent of educational wastage is appreciably reduced. How to reduce the extent is a problem which has been baffling the educational administrators at all levels in this country. Nevertheless, the problem is not devoid of solution provided its causes are known.

Most of the studies conducted so far on this problem in India are mainly concerned with the estimation of the extent of educational wastage, although a few have attempted to identify its causes by applying rather crude methods.

It was with a view to evolving scientific procedures to study this vital problem and also to gain further insight into its various aspects that in January, 1964, the National Council of Educational Research and Training, in collaboration with the Office of Education of the Department of Health, Education and Welfare of the United States Government, started work on the present project. Three specific objectives of the study are: (i) to ascertain the

extent of wastage and stagnation at the primary and middle stages of education, (ii) to analyse the causes of wastage, and (iii) to determine the relative importance of each cause. The emphasis of the study is on the identification of causes of educational wastage rather than on measuring its incidence. The justification for taking this stand is that the extent of wastage can only be reduced if its causes are known.

The procedures and methodology adopted for studying the different aspects of the problem are briefly mentioned hereunder:

The extent of wastage and stagnation has been studied for each grade in relation to boys and girls on the basis of all-India figures of grade-wise enrolment for the years 1950-51 through 1963-64. The figures of enrolment were obtained from the Statistical Unit of the Union Ministry of Education. The procedure adopted to realize the second objective of the study includes examination of school records, interviewing pupils (790 dropouts and 485 stayings) and their parents as well as teachers. The data have been collected under three areas hypothesised as covering the possible causes of dropping out. These are: the pupil area, the school area and the family area. The causes hypothesised in the community area could not be examined due to the limitation of time. The pupil and family factors have been studied by statistically analysing the differences between the dropouts and stayins, while the school factors have been examined in relation to the rate of dropout in each of the sampled schools. Two methods have been used to achieve the third objective of the study.

These are: (i) the discriminant function analysis, and (ii) the opinion poll approach. The former method is based on the analysis of the quantified data obtained through interview responses of dropouts and stayins as well as their parents on the relevant interview schedules. The latter method involves eliciting the opinions of parents, teachers and educationists on the importance of different causes of school dropout.

As regards the scheme of chapterisation, the report is divided into seven chapters. Chapter I is devloted to the analysis of the problem. A number of hypotheses have been formulated in this chapter which are purported to provide a comprehensive view of the problem. In Chapter II, a review of related studies is presented, while in Chapter III, the methodology and the procedures adopted have been detailed. In Chapter IV, the extent of wastage and stagnation has been computed on the basis of global figures of grade-wise enrolment. In Chapter V, the causes of wastage have been analysed in relation to school factors, pupil factors and family factors, while in Chapter VI, an attempt has been made to determine the relative importance of causes of wastage. Chapter VII is on conclusions and recommendations including suggestions for further research.

The present study has a limited objective of finding out the concomitant relationships between different independent variables and the criterion variable, the phenomenon of dropping out. Nevertheless, one would find in this report an explicit analysis of the problem and a number of action points which seem to have a promise

towards reducing the extent of wastage and stagnation. Some of these points seem to be trivial or obvious. In such cases, they have received empirical validity. In order to find out definite solutions to all aspects of the problem, continuous research investigations need to be conducted for which we are sure, the present study will provide a sound basis.

R.C. Sharma
C.L. Sapra
Principal Investigators

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CHAPTER I

THE PROLOGUE

Problem and Background

Thirty seven years ago, the Auxiliary Committee (popularly known as the Hartog Committee) on the Growth of Education in British India, appointed by the Indian Statutory Commission, remarked: "Throughout the whole educational system there is waste and ineffectiveness".[1] This remark holds good even today. Of 100 pupils enrolled in grade I in Indian schools, about 39 drop out or stagnate in grade I, 11 in grade II, 8 each in grades III and IV, 7 in grade V, 3 in grade VI and 2 each in grades VII and VIII.[2] As these figures indicate, wastage and stagnation, particularly in the lower primary grades, is enormous involving an immense waste of money and effort.

It may be pertinent to get an idea of the quantum of wasteful expenditure[3] due to these phenomena in primary schools. Assuming Rs.26.9 as the average annual cost per pupil in primary schools, it is estimated that in 1957-58, Rs.11.51 crores were spent on pupils who did not proceed from grade I to grade II; in 1958-59,

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1. Interim Report of the Indian Statutory Commission, Review of Growth of Education in British India by the Auxiliary Committee appointed by the Commission, Delhi: The Manager, Government of India Press, 1929, p.345.
2. Calculations based on all-India figures of grade-wise enrolment for the period 1950-51 to 1963-64 obtained from the Ministry of Education, Government of India.
3. Estimated on the basis of data regarding expenditure on primary education and grade-wise enrolment given in the Ministry of Education publications: 'Education in India, Vol. I and Vol. II' for relevant years, Delhi: The Manager of Publications, Government of India.

Note: 'Grade' and 'class' have been used as interchangeable terms in this study.

Rs. 3.23 crores were spent on pupils who did not proceed from grade II to grade III; in 1959-60, Rs.2.16 crores were spent on pupils who did not proceed from grade III to grade IV and in 1960-61, Rs. 1.94 crores were spent on pupils who did not proceed from grade IV to grade V. Thus, the waste in financial terms on account of diminution of pupils from one grade to another at the primary stage amounted to Rs. 18.84 crores. The total waste for four years works out approximately to be of the tune of Rs. 75.36 crores which constitutes about 27.6 per cent of the total expenditure on primary education during the period 1957-58 to 1960-61. A developing country like India can hardly afford this type of ill-directed expenditure.

The picture becomes more depressing when it is considered that the evils of wastage and stagnation have continued to persist in the system of elementary education in alarming proportions despite the rising per pupil cost both at constant as well as current prices[4]. The increase in the annual expenditure per pupil can be ascribed either to the increase in school life of an average pupil because of grade repetition or to the expenditure incurred on qualitative improvement. The former assumption is perhaps supported by the fact that with the universalization of education for children of the age-group 6-14

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4. The Study of Costs of Education in India, Educational Expenditure in India (1950-51 to 1960-61), Monograph No.1 (Mimeographed). New Delhi: National Council of Educational Research and Training, 1965 pp.6-8

under Article 45 of the Indian Constitution[5], children from the lower socio-economic strata of society are now being drawn to school under pressure of enrolment campaigns, resulting in greater heterogeneity in ability groupings and the higher rate of attrition and failure among those children. This hypothesis, however, needs to be scientifically investigated through further research. As regards the latter assumption, if the lower pupil-teacher ratio and the balanced proportion between teacher-costs and non-teachers-costs are considered as the two variables hypothetically concomitant to improvement in the quality of education, there is evidence to show that the quality of education has deteriorated during the decade 1950-51 to 1960-61. Both in primary as well as middle schools, the pupil-teacher ratio and the proportion of teacher-costs to the total expenditure have consistently increased during this period.[6]

Considering our limited resources coupled with the constitutional directive which envisages free, compulsory and universal education for all children upto the age of 14, the appaling dimension of educational wastage at the elementary stage[7] is indeed a matter of grave concern. There are a number of factors, nay combinations of factors, influencing the problem of wastage and stagnation, of which some are more

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5. The Constitution of India. Delhi: The Manager of Publications, Government of India, 1949. p.20
6. The Study of Costs of Education in India, 1965, op. cit., pp.37-41.
7. Elementary stage comprises primary education (grades I-IV or V) and middle school education (grades V-VII or VIII), the system of school classes varying from State to State.

critical than others. This raises the complexity of the problem. The question arises: Is the problem intractable, devoid of any solution? Perhaps not, if the causal relationships are known. It, therefore, hardly needs to be emphasised that the problem warrants urgent investigation by the research scientists.

Based largely on the frame-work implied in the Hartog Committee report[8], more than a score of investigations at primary, secondary and university stages of education have been carried out in this country during the past four decades. Of these, some stand to the credit of professional researchers and some to that of students who sumitted dissertations as a part of the requirements of the degree of Master of Education in different universities.

All these studies are of local import and have, therefore, a smaller coverage. The main concern of these studies has been to find out the incidence of wastage and stagnation, although a few have attempted to study the causes of these phenomena, rather in a crude manner. Since the extent only unfolds the magnitude of the problem, and the causal relationships have policy implications for taking appropriate remedial measures to reduce the extent, the need for fresh studies of sophisticated nature covering a larger area and laying greater emphasis on identification of the causes rather than estimation of the extent of educational wastage is well-established. It was with

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8. Interim Report of the Indian Statutory Commission, 1929, op. cit., p.45

a view to fulfilling this need that the present study was undertaken in January, 1964 in the Department of Educational Administration of the National Council of Educational Research and Training, in collaboration with the United States Office of Education of the Department of Health, Education and Welfare.

Objectives of the Study

Following are the three specific objectives of the study:

(i) to ascertain the incidence of wastage and stagnation at the primary and middle stages of education,

(ii) to analyse the causes of wastage, and

(iii) to determine the relative importance of each cause.

As stated earlier, the emphasis of the study is on identifying the causes of wastage rather than estimation of its incidence which has been worked out by a short-cut method, utilizing the all-India figures of grade-wise enrolment obtained from the Statisitical Unit of the Union Ministry of Education. The causes have been studied more comprehensively. Nevertheless, the investigation being an exploratory[9] one, it does not make a study-in-depth of the causes. The work has been confined to finding out the concomitant relationships between certain independent variables and the criterion variable, the phenomenon of drop-out because of the

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9. The main purpose of this investigation is to evolve scientific procedures for systematically studying the problem of educational wastage so as to gain further insight into its various aspects.

following two reasons:

(i) causal relationships can be worked out more insightfully when concomitant relationships are known, and

(ii) concomitant relationships provide a basis for rejecting certain hypotheses and for retaining others for causal investigations.

The causes of stagnation have not been studied separately because they are considered to overlap the causes of wastage.

Definition of the Concepts

'Educational wastage' has two main forms, viz. early school leaving and grade repetition. The terms commonly used to denote these forms are 'wastage' and 'stagnation'. For the purpose of this study, the term 'wastage' has been understood to connote the premature withdrawal of a child from school before completing grade IV or V at the primary stage and grade VII or VIII at the middle stage, the final grade of each of these stages depending upon the system of school classes which varies in different States/ Union Territories. The rationale behind adopting this definition for the primary stage is that those who drop out from any of the first four or five grades lapse into illiteracy. At the middle stage, although the absolute retrogression does not enter into the concept as 'lapse into illiteracy' does at the primary stage, the directive principle under Article 45 of the Indian Constitution enjoins on the State to provide universal, free and compulsory education to all children till they attain the age of 14. This in terms of years of schooling roughly means education upto

grade VII or VIII and constitutes the minimum of education for becoming a responsible citizen.

'Stagnation' in this study, has been understood as the retention of a pupil in a grade for more than one year on account of unsatisfactory progress or absence at the time of annual examination because of illness or any other reason. Thus, if a child passes a grade in two or more years, he[10] constitutes a case of stagnation and not of wastage, although it hardly needs to be emphasized that stagnation itself is also a form of wastage.

Conceptual Framework

It is postulated that the possible causes of wastage relate to factors germane to the pupil hemself, his family, the school and the community to which he belongs. The framework adopted for the present study, therefore, includes these four areas. The factors specific to the 'pupil area' may include: (i) physical handicaps, (ii) emotional difficulties, (iii) social maladjustment, (iv) educational backwardness, (v) dissatisfaction with school, etc. The factors related to the 'family area' may include (i) social and economic backwardness of parents/guardians, (ii) parents' illness, (iii) parents' dissatisfaction with school (iv) low educational status of the family, (v) low perception of parents about the value of education, etc. The possible factors related to the 'school area' may include:

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10. In this report, 'he' has been used both for boys and girls for the sake of convenience.

(i) poor standards of instruction, (ii) high pupil-teacher ratio, (iii) inadequate physical facilities, etc. The factors related to the 'community area' may have forces which sustain and operate its social structure. The forces may include: (i) economic status of the community, (ii) class and caste consciousness, (iii) occupational pattern, etc.

Hypotheses Formulation

A number of hypotheses based on the above framework, can be tested. Some of these are described below. The hypotheses have been formulated on the basis of the previous studies and discussions with experts and teachers.

I. Pupil Area

The hypotheses in this area are based on those dimensions of pupil behaviour, perception and personal data in respect of which dropouts[11] and stayins[12] can be expected to differ from one another. In other words, by testing certain hypotheses under the 'pupil area', it is intended to study the differences among dropouts and stayins in respect of their attendance in school, abilities, interest in education, motivation for learning, age at the time of first admission to school, order of birth among

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11. For the purpose of this study, a 'Dropout' is defined as a pupil who leaves school during any part of the academic year without completing the grade in which he is studying.
12. The term 'stayin' denotes a pupil who continues in school and completes the grade in which he is studying.

siblings, perception about their parents' view of education and perception about the teacher as an authority, etc. Needless to say, all these variables are concomitant to socio-economic factors.

The following hypotheses have been framed for being tested in the pupil area:

(1) Stayins are more regular in their attendance in school than dropouts.

(2) Dropouts' achievement in school subjects is lower than that of stayins.

(3) Stayins are more interested in education than dropouts.

(4) Stayins are punished and rewarded more than dropouts on educationally relevant activities.

(5) Dropouts express greater hostility towards punishment than stayins.

(6) Dropouts perceive education as less important than stayins.

(7) Stayins perceive their parents as taking more interest in their studies than dropouts.

(8) Dropouts are older in age than stayins at the time of first admission to school.

(9) Stayins hold more monitorial and other leardership positions in school than those held by dropouts.

(10) Stayins perceive their teachers as more kind than dropouts do.

(11) Stayins perceive their teachers as more competent than dropouts do.

While measuring abilities of dropouts and stayins, their achievement in school subjects only has been taken into consideration because of two reasons: (i) no standardised tests for measuring reading, number and writing abilities are available in India, and (ii) all these abilities are positively correlated with the achievement in school.

To study a pupil's interest in education, it is necessary to study his perception of the persons whom he prefers and admires and the activities they are engaging in. If the persons admired are perceived by him as engaging in educationally relevant activities, he is considered to be interested in education and vice-versa.

Motivation for learning is a more precise measure of predicting survival or attrition in school. The testing of hypotheses concerning this variable is, however, done in a crude way because of two reasons: (i) the study is an exploratory one, and (ii) it would take much time to prepare tools if sophisticated methods based on fantasy analysis are adopted.[13] Furthermore, the hypotheses framed to measure the differences between dropouts and stayins with regard to their motivation for learning are based on oft-quoted experiment of Hurlock[14] which confirms differential effectiveness of praise, reproof and indifference on achievement in a school subject. Testing these hypotheses, however, does not amount to the belief that the family set-up and the cultural orientation of a child do not condition his perception and reaction to reward (praise) and punishment (reproof). Probably, a child from a permissive home will react differently to even mild punishment as compared to a child from an

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13. John W.Atkinson, Motives in Fantasy Action and Society, D.Van Nostrand Company (Canada) Ltd., 1958. p.17

14. Ernest R.Hilgard and David H.Russel, Motivation in School Learning, The Forty Ninth Year Book of the N.S.S.E., Part I, Illinois: The University of Chicago Press, 1950. pp. 47-48.

authoritarian home. Needless to say, persons belonging to different cultures and countries react to similar situations differently. Thus, cultural orientation of a child becomes an intervening variable in studying the effect of reward and punishment on the dropping out of a child from school. Again, though the perception of the need for education or the reaction to punishment of a dropout might have been coloured by the critical incident or the episode of dropping out from school and though it may be more meaningful to study how potential dropouts and stayins differ in their perception of the need for education (potential dropouts are not among the subjects of the present study and can be studied in a differently designed forward-looking longitudinal study), yet it seems interesting to gain insight into the facts of the phenomenon by testing these hypotheses.

The need for approval is a strong motive for learning in school.[15] A child keenly looks forward for approval by his teachers and classmates. If he does not get this approval, he has greater chance of dropping out as compared to other pupils otherwise alike. The teachers' approval is reflected by the monitorial positions and other leadership assignments given to a child in school.

A few more hypotheses relating to different aspects of personality structure of dropouts and stayins can also be tested, but these are not being tested because all the self-report inventories available have, by and large, two lants: (i) neurotic like MMPI, BPI and their adaptations, and (ii) trait-centred like Guilford-Zimmerman,

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15. Ernest R.Hilgard and David H.Russel
Ibid, P.41

EPPS, etc. Since neuroticism and personality traits are coloured very largely by critical incidents and dropping out is one such incident, there does not seem to be much justification in studying how dropouts and stayins differ from one another on these inventories.

II. Family Area

Family exercises a great influence upon the personality development of a child. It is through interaction with the family members that a child learns many of his behaviours and attitudes. His attitudes towards school, need for education and values of life are fashioned to a very great extent by his family. Not only this, perhaps in its social and economic function too, the family influences the way of life of children. It is the socio-economic status of the family that opens and shuts many opportunities to the children. It is, therefore, immensely important to study family characteristics in relation to the dropout phenomenon. Are there really any differences among dropouts and stayins on family variables? To study this question, the following hypotheses may be examined:

(i) The size and structure of the family, etc.

(12) More dropouts than stayins come from large-sized families.

(13) Dropouts are different from stayins in their order of birth.

(14) More dropouts than stayins are the only children of their parents.

(15) More dropouts than stayins come from homes which have suffered the loss of one or both parents.

(16) Kinships have a larger number of dropouts than nuclear families.

(17) Parents of dropouts are older than those of stayins.

(ii) Socio-economic status of the family

(18) The caste structure of dropouts' parents is different from that of stayins' parents.

(19) The occupational pattern of dropouts' parents is different from that of stayins' parents.

(20) The educational status of the families of ⟨stayins⟩ is higher than that of dropouts' families.

(21) The educational status of the parents of ⟨of stayins⟩ is higher than that of dropouts' parents.

(22) The economic status of the families of stayins is higher than that of dropouts' families.

(23) The accommodation per child is lesser in the homes of dropouts than those of stayins.

(iii) Parents' opinions and beliefs about the school, etc.

(24) Parents of stayins express more satisfaction with the standards of instruction in school than those of dropouts.

(25) Parents of stayins express greater satisfaction with the social influence of school than those of dropouts.

(26) Parents of stayins express greater satisfaction with the physical facilities available in school than those of dropouts.

(27) Parents of dropouts perceive cost of educating their children more burdensome than those of stayins.

(28) Parents of stayins view education more important than those of dropouts.

III. School Area

School is a complex of social situations in which

children live, interact with one another, interact with teachers and develop attitudes and response patterns. Schools are obviously of different types: boys, girls, co-educational; privately managed, managed by government and local bodies, etc. Perhaps each type of school has its own culture which may influence the rate of dropout. It may, therefore, be interesting to study the relationship between the type of school and the rate of dropout.

Further, it may be worthwhile to study certain characteristics of teachers as related to the rate of dropout. One such characteristic is the age of teachers. Age of a teacher seems to have meaning in relation to that of pupils. Elderly teachers are usually taken by pupils as parents substitutes. Naturally, they can easily secure pupils' subordination. However, they have difficulty in emphasising with pupils and sympathising with the vagaries of their behaviour. By contrast, young teachers, especially those who have just crossed adolescence, (and there are many such teachers in primary and middle schools in India) have an advantage of understanding the cultural world of pupils but they suffer from the disadvantage of reconciling authority with friendship. Thus, it is obvious that the age of teachers can be hypothesised as being related to the rate of dropout.

Similarly, hypotheses can be framed for testing the relationships between the sex/ of teachers and their marital status and the criterion dropout. Sex has special importance in our country because women teachers

often face disciplinary problems with especially male students and these are bound to be in a society as ours, where the tradition is that of male dominance. It is the father who is to be feared and obeyed. Mother is to be loved and not necessarily obeyed. Since a woman teacher is the mother image, she may be loved by students but may not necessarily be obeyed. In brief, sex of teachers influence teacher-pupil relationship and, therefore, merits study in relation to the rate of dropout. For similar reasons, the marital status of teachers also needs explanation.

Apart from the foregoing, physical facilities available in school, the curricular and co-curricular programmes, the provision for mid-day meals, scholarships, etc. are also likely to be related to the rate of dropout.

Stating precisely, the following hypotheses can be tested in the 'School Area':

(29) The rate of dropout is less in boys' than in girls' and co-educational schools.

(30) The rate of dropout is higher in privately managed schools than in those run by government or local bodies.

(31) The older a school, the lesser is the rate of dropout.

(32) The rate of dropout is positively related to the size of a school.

(33) The rate of dropout is less in single-shift than in double-shift schools.

(34) The rate of dropout is negatively related to the following aspects of teachers:

i) Age,
ii) Qualifications,
iii) Teaching experience,
iv) Income, and
v) Social participation.

(35) The rate of dropout is positively related to:

i) Teacher-pupil ratio,
ii) Distance of school from the residence of teachers, and
iii) Distance of school from the residence of pupils.

(36) The better the building of a school, the lesser will be the rate of dropout in it.

(37) The better the furniture of a school, the lesser will be the rate of dropout in it.

(38) The rate of dropout is negatively related to the availability of teaching aids in a school.

(39) The rate of dropout is positively related to the time devoted to curricular work in a school.

(40) The rate of dropout is negatively related to the time given for co-curricular activities in a school.

(41) The rate of dropout is negatively related to the school-community relations.

(42) The rate of dropout is positively related to the amount of fees and funds charged in a school.

(43) The rate of dropout is negatively related to:

i) Contribution made by a school towards mid-day meals,
ii) Contribution made by a school towards school uniform of pupils,
iii) Freedom given to pupils in wearing prescribed school uniform, and
iv) Contribution made by a school towards books and stationery for pupils.

(44) The rate of dropout is higher in schools where boys are taught by women teachers.

IV. Community Area

In India, rural communities (the larger social settings) are not as complex and culturally diversified as urban communities or the communities of the western

countries. A rural community in India has still not lost its cultural stereo-type. Thus, there are villages which are conspicuous by their caste or occupational character. It is not uncommon to hear "This is a Brahmins' village," "This is an Ahirs' village", etc. These villages have a definite and distinct fabric of easily identifiable social values and cultural patterns which, by and large, determine the way of life of the people and may possibly influence the rate of dropout in schools. It may, therefore, be interesting to study how certain variables and patterns of communities are related to the rate of dropout. The under-mentioned hypotheses can be tested in the 'Community Area':

(45) The rate of dropout in a community is negatively related to the following:

i) its economic status,

ii) its caste structure,

iii) its occupational pattern,

iv) its educational status,

v) its material cultura[16],

vi) the extent of its social participation, and

vii) the level of aspirations of its leaders.

In the present investigation, all the foregoing forty-five hypotheses have not been examined. It was considered that some of these were not testable because

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16. 'Material Culture' of a community denotes community's possessions in terms of number of tractors, bicycles, jeeps and cars, sewing machines, television and radio-sets (including transistors) and electricity and sources of water supply, etc.

of the non-availability or incompleteness and/or inconsistency of the data or intangibility of measurement and other difficulties, while hypotheses related to the community area could not be tested due to the limitation of time.

The outcome of the present study is a list of possible causes of wastage which can be utilised in two ways: (i) as hypotheses for further research work on the problem, and (ii) as a basis for determining the relative significance of each identified cause. The latter is probably another way of stating the third objective of the present investigation.

CHAPTER II

REVIEW OF RELATED STUDIES

As mentioned in the preceding Chapter, studies/researches on the problem of wastage and stagnation in India bear a reference to the Hartog Committee. Taking a cue from the report of this Committee, more than a score of studies at the primary, secondary and university stages of education have been conducted in this country during the past four decades. Of these, only the important ones that are relevant to the primary and middle stages of education are reviewed hereunder:-

1. Defining Wastage and Stagnation

The first problem in all the studies conducted so far is that of defining the concepts 'wastage' and 'stagnation'. 'Wastage' was defined by the Hartog Committee as "the premature withdrawal of children from school at any stage before the completion of the primary course"[1], while 'stagnation' was defined to mean "the retention in a lower class of a child for a period of more than one year"[2]. As regards 'stagnation', there is hardly any disagreement between the connotation given by the Committee and that subsequently followed by the research workers. However, the definition of 'wastage' as given by the Committee has raised certain controversies, even though it is

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1. Interim Report of the Indian Statutory Commission, 1929, op. cit., p.47.
2. loc. cit.

accepted
operationally in almost all the studies. The main point at issue is whether or not all pupils who dropout before passing the last grade of a stage of education should be included in the definition of wastage. This implies viewpoints which form the basis for two definitions discussed below:

First Definition

This flows from the argument that wastage should be related to the objectives of education prescribed for the stage under investigation.[3] These objectives, as the supporters of the argument say, cannot be accomplished unless one spends more than a term in the last grade of the stage under enquiry or actually passes it. For instance, attainment of permanent literacy is considered to be the main objective of primary education (grades I-IV or V), and any child who drops out or is withdrawn from school before spending sufficient time (at least 120 days)[4] in grade IV or V or before actually passing it, constitutes a case of wastage. This definition has been used in most of the studies.

Second Definition

This is based on the concept of 'incremental gains' in learning outcomes. The supporters of this definition argue that the 'year' instead of the 'stage' should be taken

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3. Veda Prakasha, Stagnation and Wastage, The Indian Year Book of Education, Second Year Book - Elementary Education, New Delhi: National Council of Educational Research and Training, 1964. p. 133.
4. Provincial Board of Primary Education, Bombay, Report on Stagnation and Wastage in Primary Schools, Government Printing and Stationery, Bombay, 1941 p.3.

as the
/temporal unit of enquiry because every year of schooling adds to the partial attainment of the objectives laid down for the stage under investigation. Consequently, a child who drops out in the last grade or is withdrawn before reaching or passing that grade is not a case of wastage. This definition was used by Chickermane[5] and also by the authors of the Poona Study[6] and the 24-Parganas Study[7] for computational purposes. In the latter two studies, the concept of 'educational credits or benefits' was used instead of 'incremental gains' in learning outcomes. Both the concepts, however, convey the same meaning.

It may not be out of place to make a few observations here. The definition is hardly acceptable for the primary stage wherein the phenomenon 'lapse into illiteracy' intervenes. The studies conducted in Maharashtra (Provincial Board of Primary Education, Bombay, 1941),[8] (Gadgil and Dandekar, 1955)[9] have shown that as a minimum, four years of schooling is necessary for every child to ensure the retention of effective literacy in his later life.

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5. D.V. Chickermane, "A Study of Wastage in Primary Education in India", Education and Psychology Review, Baroda: M.S. University, Vol.2, Jan. 1962. pp. 20-21
6. Directorate of Education (Research Unit), Bombay, "Wastage and Stagnation in Primary Schools", Report of - Summary: Indian Journal of Educational Administration and Research. Antumn 1960. p.13.
7. P. Chowdhury, Report of an Investigation into the problem of Wastage and Stagnation in Primary Schools in the District of 24-Parganas, 1965. p.6
8. Provincial Board of Primary Education, Bombay, 1941, op. cit., p.3
9. D.R. Gadgil and V.M. Dandekar, Report of two Investigations-Primary Education in Satara District, Gokhale Institute of Politics and Economics, Poona, 1955. p. 67.

Although the phenomenon 'lapse into illiteracy' does not operate at the middle stage, Article 45 of the Indian Constitution provides for universal, free and compulsory education for all children up to the age of 14, which means education up to grade VII or VIII. The constitutional provision perhaps implies that this is the minimum of education required to produce good citizens. Although, no systematic studies, have been conducted to find out the years of schooling needed for acquiring citizenship training, yet it may not be too much to assume that reaching or actually passing grade VII or VIII is necessary to accomplish this objective. This implies that the concept of 'incremental gains' in learning outcomes will not be applicable to the middle stage and consequently any child who drops out or is withdrawn before reaching grade VII or VIII would constitute a case of wastage.

Nevertheless, it may be safe to assume that the concept of 'incremental gains' would apply to the secondary stage of education. To illustrate, those children who drop out after passing grade IX will not constitute wastage if they acquire such skills as are required of them to fit in the jobs they have planned to pursue in life. Education more than this will have a consumption rather than an investment bias. In a developing country like India, education having consumption bias is an item of luxury and involves substantial if not total waste. Based on this rationale, the concept of wastage need not be linked up with reaching or passing the last grade of the secondary stage.

Instead, it may be related to the concept of 'incremental gains' in learning outcomes.

2. Methods of Measuring the Phenomena

After defining the terms 'wastage' and 'stagnation', the next aspect of the problem tackled in different studies is that of their measurement. The various methods adopted for assessing the magnitude of the phenomena are discussed below:-

(a) Wastage

METHOD-I Under this method, census data was compared with the enrolment in grades I-V. The method was used by Sharp[10] in 1911-12 to estimate 'lapse into illiteracy', although it actually estimated 'wastage'. Sharp assumed the number of children in grades I-V in 1911-12 (available to him) as equivalent to the number of those in schools in 1901-02 (not available to him). Having thus estimated the number of children in the age-group 5-10 in 1901-02, he compared it with the number of literate persons in the age-group 15-20 in the year 1911-12. Probably the difference between the two figures would crudely be an estimation of the extent of wastage. The shortcomings of the method are as follows:

(a) The method is based on the assumption that the number of children in schools of the age-group 5 to 10 is the same as the number of pupils in grades I to V. This

10. H. Sharp, Progress of Education in India. 1907-1912, Sixth Quinquinnial Review, Calcutta: Superintendent, Government Printing, 1914. pp. 139-143.

assumption is discredited on the ground that although in most of the States, no child less than 5 years of age can be admitted to grade I, a substantial number of children (27.5 per cent)[11] in grades I to V is of higher age than the normal age-group of 5-10 years.

(b) The method does not make any allowance for the deaths which may have occured during these years.

(c) It can only be used once in ten years, since census data are collected after every ten years.

(d) It is based on literacy as the aim of primary education, literacy as defined in the census.

METHOD-II This method assumes "that, in any given year, the enrolment in classes I-VIII would be equally distributed and then compares enrolment in all classes with that in class I, concluding that all diminution from one class to another represents 'wastage'. This method has its obvious limitations, especially because class II of the year is not the result of class I of the same year but that of class I in the earlier year when the enrolment was much less. The same argument applies to other classes also."[12]

METHOD-III This compares the number of pupils in the infant class or in class I with those in class IV or V respectively

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11. Estimated on the basis of figures of enrolment by ages and by grades obtained from the Statistical Unit of the Ministry of Education, Government of India.
12. Veda Prakasha, op. cit., p.135

five years later. In other words, wastage is computed through this method by subtracting enrolment in grade V from enrolment in grade I, five years earlier. The Hartog Committee used this method for the first time. The Committee was conscious of the limitations of its approach. The first limitation was that the figures so obtained not only included cases of wastage but also those of stagnation. The second limitation was that it did not make allowance for special circumstances, e.g., a period of rapid expansion. "A period of rapid expansion naturally results in an abnormal enlargement of class I and as a consequence, a temporary disproportion between the number in class I and those in higher classes".[13] The third limitation was that the method did not take into consideration new admission to grades II-V. The fourth limitation was that it did not make allowance for deaths and double or early promotions.

METHOD-IV Under this method, the career of a cohort of pupils in a given year who entered the beginning grade of the stage under enquiry is followed up in the subsequent years till the last grade is reached. The number of children who drop out or are withdrawn from school before completing the last grade of the stage under investigation constitute cases of wastage and the extent of wastage is computed from the proportion of these dropouts to the initial cohort. This method in the studies conducted so far has a backward look in the sense that it covers past periods. No large

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13. The Interim Report of the Indian Statutory Commission, 1929. op. cit., p.47

scale forward looking
/ longitudinal study has yet been undertaken in this country following up a cohort of pupils through future years. The studies that used the cohort method while measuring wastage in primary education are: (i) The Satara Study (Gadgil, D.R. and Dandekar, V.N., 1955), (ii) The Poona Study (Research Unit, Directorate of Education, Bombay, 1960), and (iii) The 24-Parganas Study (Chowdhury, P., 1955).

Evidently, the cohort method has not been widely used although it is considered to be the most scientific method employed so far.

METHOD-V: This assumes wastage as a continuous variable and is based on the concept of 'incremental gains' in learning out-comes. A reference to this concept has been made earlier. The concept implies that as a child moves from the beginning grade towards the last grade of the stage of education, the earlier he leaves in terms of both grade and month, the more will be the wastage due to him. To illustrate, a pupil who leaves after passing grade III constitutes much less wastage as compared to the one who leaves in grade I. This approach was used by Chickermane.[14] He gave weights of 10,20,30 and 40 to grades I, II, III, and IV respectively. These weights were assigned by him on the assumption that there were ten working months in an academic year. Each completed month of the academic year would then entitle the child for a score of 1,2,3 and 4 in grades I, II, III and IV

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14. D.V. Chickermane, "A Study of Wastage in Primary Education in India", op. cit., pp. 20-21

respectively. Thus one who leaves just after passing grade I, has a score of 10 in terms of using the school and wastage of 90 due to him; similarly one who leaves after grade I but having studied in grade II for 2 months has a score of 14 in terms of using the school and wastage of 86 due to him. Also, the idea of giving weights of 1,2,3 and 4 respectively to pupils for completion of grade I, II, III and IV was advocated by the authors of the Poona Study[15] and the 24-Parganas Study.[16] According to these authors, half the credits may be calculated for those who fail in grade I-IV. For this, the reason advanced by them is that a pupil, who remains in a grade, prepares for the final examination of that grade and also appears at it, does derive some educational benefit, even if he does not pass. No credits are, however, given to those who absent themselves at the final examination or for those who leave the school during the year.

It will, however, appear that the method is discredited, especially at the primary stage because of the intervention of the phenomenon 'lapse into illiteracy' which means that those pupils who drop-out from grade IV or V are not significantly different from those who drop out in grade I or II. In view of this, the wastage in terms of time, money and energy spent on the education of the former is comparatively much more than that

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15. Directorate of Education (Research Unit), Bombay op. cit., p. 13.

16. P. Chowdhury, op. cit., p.6.

of the latter. This is the anti-thesis of Chickermane's formulations and also the conceptual framework advanced by the authors of the Poona Study and the 24-Parganas Study.

(b) Stagnation

Stagnation has generally been measured by counting the number of failures during different years from the same cohort of pupils. The formula used for computing the index of stagnation is as follows:

$$\text{Index of stagnation} = 100 \left(1 - \frac{\text{Total optimum years}}{\text{Actually used years}}\right)$$

"The expression 'optimum years' is used to denote the total number of years required for a given cohort to complete the prescribed course on the assumption that every child will make normal and regular progress from year to year. The 'actually used years' are, however, calculated by counting every year spent in school by every child in the cohort."[17]

The illustrate these concepts, let us suppose a cohort of 1,000 children entering grade I during a given year. Let us further suppose that the duration of primary course is five years. Assuming that each child passes regularly, he will take five years to complete the entire course. The total number of years or the optimum years for the cohort to complete the primary stage will be 5,000. But in actual setting, it does not happen so. Some pupils fail. Now suppose that out of the 1,000 pupils in the aforesaid cohort, those who take more than

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17. Veda Prakasha, op. cit., p.142

5 years each to complete the course are distributed as follows: 400 take 6 years, 200 take 7 years, 100 take 8 years, 25 take 9 years and 5 take 10 years. That is, each of the 400+200+100+25+5 or 730 pupils take 6 years or more to complete the primary course whereas 270 pass in the minimum period of 5 years. 'The actually used years' for the entire cohort will then be 270x5+400x6+200x7+100x8+25x9+5x10 = 6225. Accordingly, the Index of stagnation will be: $100 \left(1 - \frac{5000}{6225}\right) = 19.7$ approximately.

The Poona Study[18] and the 24-Parganas Study[19] have made a distinction between the 'actually used years' and 'effective school years'. The latter means the number of years profitably used by a pupil in his school life. For example, if a student takes 4 years to pass grade I, the 'actually used years' in his case would be 4, whereas 'effective school years' would be only 1. The effectiveness of the school system is measured by the formula:

$$\text{Effectiveness of school system} = \frac{\text{Effective school years}}{\text{Actual school years}} \times 100$$

The difference between 100 and the figure representing the effectiveness of the school system thus obtained denotes the extent of stagnation.

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18. Directorate of Education, Bombay (Research Unit), op. cit., p. 12.

19. P. Chowdhury, op. cit., p. 5

3. Methods of Identifying the Causes

Studies conducted so far have employed two methods viz. Direct Method and Indirect Method to identify the causes of wastage and stagnation. Each of these methods is discussed below:

i) Direct Method Under this method, the dropouts and their parents are inteviewed by the investigators to ascertain the causes of dropping out or premature withdrawal from school. The main drawback of this method is that it does not ensure true causes being told by the respondents and that the causes are all coloured by the respondents' perception.

ii) Indirect Method The causes of dropping out or premature withdrawal from school under this method are ascertained either by interviewing the dropouts' friends, neighbours, teachers and members of the local community, etc., or by administering a checklist of possible causes, requesting the respondents to tick-mark those which are applicable to each case being investigated. The responses obtained through this method are by no means more objective than those obtained through the direct method. This method involving the teachers only was used in the Satara Study[20] and the Punjab Study,[21] while the 24-Parganas Study[22] and the Gargoti Study[23] adopted this approach involving the teachers and the local community leaders.

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20. D.R. Gadgil and V.M. Dandekar, op. cit., p.158
21. Asian Institute of Educational Planning and Administration, New Delhi, Wastage and Stagnation in School Education - A Pilot Study, 1965. p. 33.
22. P. Chowdhury, op. cit., p.7
23. D.V. Chickermane, "Influence of Home Circumstances on Wastage in Primary Education", Education and Psychology Review, Baroda: M.S. University, Vol. 2, July 1962. p.137.

4. Methods of determining the relative importance of causes

In the studies conducted so far, two methods have been used to determine the relative importance of causes of wastage and stagnation. These are discussed below:-

i) Frequency distribution method This is the most commonly used method and has been adopted in almost all the studies. The frequencies for each of the causes as stated by the dropouts, their parents, teachers, peers, the local community leaders, etc. are worked out. Simple frequencies are converted into percentage frequencies which are arranged in the descending order. Percentage frequencies are ranked and the ranks thus obtained reflect the relative significance of each cause.

ii) Statistical method Chickermane[24] attempted to find out the relationship between wastage in primary education and home circumstances by means of four-fold correlation tables. The distributions were arranged in dichotomies. Phi-coefficients were calculated from the correlation tables; Chi-squares were calculated from Phi-coefficients and values of Maximal Phi-coefficients were also computed. In the first instance, the relationship between the independent variables (four features of home circumstances - financial condition of parents/guardians, attitude of parents/guardians towards education, involvement of children in domestic work and educational status of the family) and the criterion variable, the phenomenon of wastage was established by the significance of Phi-coefficients, which was examined by the value of Chi-square in each of the correlation tables.

24. D.Y. Chickermane, Ibid., p. 135.

The relative importance of each of the variables in causing wastage in primary education was established by examining the magnitude of the Phi-coefficient and also by the ratio of its variance to the total variance of the Maximal Phi-coefficients.

5. Incidence of wastage and stagnation

The incidence of wastage and stagnation in primary education, as worked out in different studies, is summarized in the following table:

TABLE I

Incidence of wastage and stagnation in primary education (Grades I to IV)

Name of the study	Wastage (%)	Stagnation (%)
1. The Satara Study[25]	36.1	45.8
2. The Poona Study[26]	41.4	37.5
3. The Gargoti Study[27]	28.0	40.0
4. The 24-Parganas Study[28]	33.1	39.4

It is seen from the above figures that the incidence of wastage is the highest in the Poona Study. This is followed by the Satara Study, the 24-Parganas Study and the Gargoti Study.

25. D.R. Gadgil and V.M. Dandekar, op. cit., p.140
26. Directorate of Education, Bombay (Research Unit), op.cit., pp. 11-12.
27. D.V. Chickermane, "A Study of Wastage in Primary Education in India", op. cit., p.22.
28. P. Chowdhury, op. cit., pp.4-5

The wastage computed in the Poona Study is higher than what it would have been had the 414 dropout cases been followed up through further years beyond 1958. The incidence of wastage is the lowest in the Gargoti Study which is due to the different methods followed in the different studies for its computation. The wastage figure in the Gargoti Study does not include the element of stagnation whereas the corresponding figures in the other studies contain such element.

As regards stagnation, the incidence is the highest in the Satara Study, followed by the Gargoti Study, the 24-Parganas Study and the Poona Study. It is further observed that there is no significant difference between the stagnation figures in the Gargoti Study and the 24-Parganas Study.

A comparison of the figures given in columns 2 and 3 of the table shows that the incidence of stagnation is higher than that of wastage in all cases except in the Poona Study. Had the element of stagnation included in the wastage figures under column 2 been included in the stagnation figures under column 3 in the Satara Study, the Poona Study and the 24-Parganas Study, the incidence of stagnation would have been much higher than that mentioned under column 3. Thus, it is evident that the stagnation is a greater evil than wastage.

Another finding of all these studies that needs special mention here is that the incidence of wastage is the highest in grade I which goes on decreasing in the succeeding grades. The figures in this connection are set out in the table below:

TABLE 2

Incidence of wastage in primary education by grades

Name of the Study	Wastage (%) in Grades			
	I	II	III	IV
1. The Satara Study[29]	53.5	19.3	14.0	13.0
2. The Poona Study[30]	44.2	28.5	21.3	6.4
3. The 24-Parganas Study[31]	46.9	32.9	15.9	4.3

The differences in the results of these studies are perhaps due to the variations in sample, in the methods used for computing the incidence of wastage and stagnation and in the year of investigation.

6. Causes of wastage and stagnation

The causes of wastage and stagnation in elementary education, as revealed by different studies, can be broadly classified under three categories:

(a) Socio-Economic
(b) Educational
(c) Miscellaneous

These are summarized hereunder:

(a) Socio-Economic

1) Economic backwardness of the family In most of the studies, economic backwardness of the family has been found to be one of the most important causes contributing to the phenomena

29. D.R. Gadgil and V.M. Dandekar, op. cit., p.140.
30. Directorate of Education, Bombay (Research Unit), op. cit., p.11.
31. P. Chowdhury, op. cit., pp. 2-3.

of wastage and stagnation. This specific cause has been interpreted in two ways: (i) Education costs directly something to the parents in the form of fees, books, stationery, school uniform, etc., and (ii) Not infrequently, parents in India employ "children in some form of labour as soon as they are old enough to be employed. Sometimes the employment is outside the family; but in a large majority of cases, the employment is in the family itself and the child is asked to do some work that will save the employment of outside labour (e.g., cattle-tending) or is asked to do some work (e.g., taking care of a younger child) which will enable the parents themselves to go out for work".[32]

Chickermane, on the other hand, found that the relationship between the income of parents and the phenomena of wastage and stagnation was insignificant. He showed through statistical analysis that "even rich children leave school before completing the fourth grade in four years or take longer time, while poor students who have joined school do not discontinue mainly for poverty."[33] This finding may, however, be viewed with certain reservations in view of the fact that the significant relationships found by Chickermane between wastage in primary education and other home variables, e.g. excessive involvement of children in domestic work, indifference of parents towards education and educational status of the family are also related to the socio-economic background of the family.

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32. Provincial Board of Primary Education, Bombay, 1941, op. cit., p.11.

33. D.V. Chickermane, "Influence of Home Circumstances on Wastage in Primary Education", op.cit., pp.138-139.

Another study[34] revealed that 'paid employment' is a very minor cause of wastage even at the middle stage of education. This is understandable because there are limited opportunities in our country for outside paid employment. Children are, however, required to help their parents at home in the economic activities of the family. Nevertheless, there is a concensus that the economic factors contribute significantly to the phenomena of wastage and stagnation. It is estimated that about 65 per cent of the total educational wastage in elementary schools is due to these factors.[35]

ii) Excessive involvement of children in domestic work Excessive involvement of children in domestic work practically leaves no time to them for study at home. This has come out to be one of the significant causes of stagnation which ultimately leads to wastage.[36]

iii) Caste Studies[37] conducted on the problem of wastage and stagnation have shown that parents in the caste group consisting of Brahmins, Jain, Lingayat, Vani, tolerate more repetitions of grades by their children than those in the caste group, Mahar, Chambhar, Mang, Romoshi, Kaikadi and others, before they withdraw their children from school. This indirectly supports the belief that there is less wastage in higher than in lower caste groups.

iv) Occupation This is another socio-economic factor which is linked up with caste. Studies[38] have shown that the people engaged in business and salaried employment favour the

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34. Asian Institute of Educational Planning and Administration, New Delhi, op.cit., p.33.
35. Veda Prakasha, op. cit., p.140
36. D.V. Chickermane, "Influence of Home Circumstances on Wastage in Primary Education", op. cit., p.139.
37. D.R. Gadgil and V.M. Dandekar, op. cit., p.151
38. D.R. Gadgil and V.M. Dandekar, Ibid., p.154.

continuation of the education of their children more than those engaged in agriculture, artisanship, casual labour, etc.

v) Educational status of the family The influence of this factor on the phenomena of parents about the value of education depends, to a large extent upon this factor. One of the studies[39] has revealed that the presence of a large number of illiterate members in the family is positively related to the phenomenon of wastage.

/wastage and stagnation is no less important. The perception of

vi) Early marriage or betrothal Early marriage or betrothal as a cause of wastage, significantly operates in the case of girls. It is more pronounced at the middle stage of education. In this connection, it may be pertinent to quote the report of the Provincial Board of Primary Education, Bombay: "The Sharada Act has prevented early marriage to a certain extent but it does not prevent early betrothal. And it is our common experience that girls in villages are generally withdrawn early from schools, especially after a betrothal or marriage."[40]

vii) Indifference of parents Parental indifference towards the education of their children is perhaps one of the most important causes of wastage. Probably, factors which lead to this indifference are: cultural deprivation, poverty and illiteracy of parents. The National Committee on Women's Education reported[41] that roughly 25 to 30 per cent of the wastage was due to this factor.

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39. D.V. Chickermane, "Influence of Home Circumstances on Wastage in Primary Education", op.cit., p.139.
40. Provincial Board of Primary Education, Bombay, 1941, op.cit., p.15.
41. Ministry of Education, India, Report of the National Committee on Women's Education, Delhi: The Manager of Publications, Government of India, 1959. p.81.

viii) Parental opposition Opposition of parents to further education of their wards, particularly at the middle stage of education is also given as a cause of wastage.[42] In the case of girls it is perhaps because of social taboos and also their greater usefulness in domestic work, while in the case of boys, it is generally due to their economic usefulness to the family.

(b) Educational

i) Stagnation This is a major factor related to wastage and is warranted by the fact that the median period spent in a class by dropouts is more than that spent by stayins. In this connection, it may be pertinent to quote the Hartog Committee Report "The longer a child remains in one class, the more he is discouraged and probably neglected while his continued presence at school not only confers no benefit on himself, but also affects adversely the teaching of the other pupils."[43]

"Stagnation is due to a variety of factors, the chief among which are the poor quality of teachers, indifferent teaching, defective system of examinations, lack of earnestness on the part of students or lack of proper environment at home, paucity or non-availability of textbooks, etc."[44]

ii) Absence of relationship between educational system and economic needs of the community

As stated earlier, a large majority of children in India are prematurely withdrawn from school because of their economic usefulness to the family. As a solution to this problem, the

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42. Asian Institute of Educational Planning and Administration, op.cit.,p.33.
43. Interim Report of the Indian Statutory Commission, 1929. p.50
44. R.S. Chitkara, Wastage and Retardation in Education, Delhi: The Manager of Publications, Government of India, 1961. p.8.

Provincial Board of Primary Education, Bombay suggested "If our educational system can be so adjusted that grown up children can assist their parents and also study at school, the wastage due to economic causes can be greatly reduced."[45]

iii) Faulty admission policy In some of the States in this country, admission in grade I is kept open throughout the year. As a result thereof, those children who join the school towards the fag end of the academic session are treated as stagnation cases, though technically speaking, they do not constitute cases of stagnation since they study only for a few months and not for the whole year.

iv) Incomplete schools As pointed out by the National Committee on Women's Education in its report (1959) "Still another cause of wastage is the absence of schooling facilities. Sometimes the school in the village will be incomplete, i.e., it will not have all the five classes. When such is the case in any village and there is no other school in the neighbourhood to reach the upper classes which have not been provided in the local school, the child has no other alternative but to discontinue education."[46]

v) Poor school environment It is a truism that a majority of elementary schools in India have unattractive buildings, inadequate equipment, indifferent and untrained teachers, overcrowded classes and so on.

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45. Provincial Board of Primary Education, Bombay, 1941, op.cit., pp.12-13.
46. op.cit., p.81.

All these constitute poor school environment. The National Committee on Women's Education in its report pointed out that "at present, the schools are so poor that the average child is not inclined to remain therein and consequently, the average parent withdraws him from school."[47] It has been estimated that 30 per cent of the total wastage is due to educational causes.[48]

(c) Miscellaneous

i) Death of the parents Death of one of the parents or both deprives the child of parental affection and care. In some cases where the child is grown up, he has to shoulder the responsibility of bread-earning for the family, consequent upon the death of his father. Because of these reasons, it has been found through research studies[49] that he drops out from school without completing the last grade of the stage of education in which he is studying.

ii) Illness of the pupil Because of economic backwardness, a large number of school children in India are undernourished and, therefore, very often they contract diseases of different kinds. Some of the studies[50] have shown that continuous illness of the pupils adversely affects their achievement in studies which ultimately leads to stagnation and wastage.

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47. op.cit., p.80.
48. Veda Prakasha, op.cit.,p.141
49. D.R.Gadgil and V.M. Dandekar, op.cit., p.157.
50. Asian Institute of Educational Planning and Administration. op.cit.,p.33.

iii) Heterogeneity in age-composition of the pupils

Some of the studies[51] have revealed that in a class, students older than the median age are likely to drop out. The reasons being that they become economically useful to the family and they also feel mentally uncomfortable to adjust with their peers who are very much younger to them in age. Presumably those children who belong to lower socio-economic groups are admitted to school at higher than the normal age.

iv) Irregular attendance This has been found to be one of the most important contributory factors responsible for the phenomenon of stagnation which ultimately results in wastage.[52] Why does a child cease to attend the school regularly? This may be due to many causes e.g. emotional difficulties, lack of interest in education, ill-health, bad company, dissatisfaction with school, home circumstances, etc. These causes need to be probed into when a child shows the symptom of irregular attendance.

From the foregoing, it is obvious that socio-economic factors and educational factors contribute maximally to the phenomena of wastage and stagnation at the elementary stage. Both of these taken together are responsible for 95 per cent of the total wastage, while the remaining 5 per cent is explained by other factors.

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51. D.R. Gadgil and V.M.Dandekar, op.cit., p.149.

52. Ministry of Education, India, Report of the National Committee on Women's Education, 1959, op.cit., p.75.

CHAPTER III

DESIGN AND PROCEDURE

In Chapter I, the objectives of the study were delineated. In the present Chapter, a detailed description of the methodology adopted for accomplishing those objectives, the tools developed, the sample taken, the mechanics of collecting data and the statistical treatment of data, is being given.

a) Methodology

OBJECTIVE 1: Estimating the Extent of Wastage and Stagnation

Work on this objective was guided by the rationale that precision in the estimation of the extent of wastage is not as important as that in the identification of its causes. It was thought that the former merely unfolded the magnitude of the phenomenon, while the latter had policy implications for improving the existing situation. Nevertheless, the estimate of the extent was considered quite significant because it is the extent that helps in keeping a record of the relative changes (rise or fall) in the magnitude of wastage and stagnation through different years. And the relative changes, if measured on the same scale, can provide a fairly accurate description of the phenomena as is perhaps needed by the educational administrators.

Proceeding on this rationale, a short-cut method was adopted for calculating the extent of wastage and stagnation by utilizing the all-India figures of grade-wise enrolment for the years 1950-51 through 1963-64 obtained from the Statistical Unit of

the Ministry of Education, Government of India. For estimating the extent at the primary stage, the method involved the subtraction of enrolment in grade V in a given year from that in grade I, five years earlier. The difference obviously denoted the combined extent of wastage and stagnation in primary education. This simple extent was transformed into the rate of wastage and stagnation per 100 pupils enrolled in grade I by dividing the difference thus obtained by the figure of enrolment in grade I and multiplying the fraction by 100. This was, however, a crude estimate in the sense that it did not account for double or early promotions (i.e. passing more than one grade in a year), and deaths occuring during the interval of estimation. Again, it did not provide any scope for determining the extent of wastage and stagnation each separately, nor did it take into account fresh admissions to grades II-V. Nevertheless, it balanced transfers from one school to another, since it utilised global figures.

In the foregoing method, years like 1950-51, 1951-52, etc. to which the enrolment in grade I pertained, were called base years and the enrolment itself was referred to as cohort. Cohorts corresponding to the base years 1950-51 through 1959-60 were analysed for the primary stage.

Following the same procedure at the middle stage and taking enrolment in grade VI as the initial cohort, the extent of wastage and stagnation was worked out for that stage covering the base years 1950-51 through 1961-62. It was also computed for grades I through VIII.

The rate of dropout[1] on every 100 children enrolled, by grades and stages of education, sex, and location of school (rural/urban) in the primary and middle schools selected for the present study from the States of Punjab, Rajasthan and Maharashtra and the Union Territories of Delhi and Himachal Pradesh was also calculated for the years 1962-63 and 1963-64. The data for computing the rate of dropout were collected through the School Information Blank (Appendix I). A detailed description of this instrument will be given later in this Chapter. The method adopted for working out the rate of dropout is as under:

The names of pupils who left school during the years 1962-63 and 1963-64 were listed out. The School leavers included pupils who obtained school leaving certificates and also those whose names were struck off from the rolls on account of long absence or other reasons. The teachers were requested to ascertain the whereabouts of the school leavers by contacting their parents or by gathering evidence about them from other sources. The school leavers who were found to have joined some other schools were not taken into account for the purpose of calculating the rate of dropout. Those about whom it was definitely known that they had discontinued their studies, it was considered

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1. The terms 'Wastage' and 'Dropout' are used to denote different meanings. All cases of wastage are not invariably the cases of dropout and vice-versa. Those dropouts are excluded from the definition of wastage who join school during subsequent years and pass the last grade of the stage of education under investigation. Similarly, those cases of wastage are excluded from the definition of dropout who do not dropout during the course of the year but leave studies (without of course passing the last grade of the stage of education) after completing the academic year, no matter whether they pass or fail. Again, the extent of wastage and the rate of dropout are not strictly comparable because in one the unit of measurement is the 'stage', while in the other it is the 'year'.

that they constituted clear cases of dropout. To this were added, 60 per cent of the school leavers whose whereabouts were not known. This was done to obtain the total number of dropouts in each grade (grades I-VIII) during each of the years 1962-63 and 1963-64. The decision to treat 60 per cent of the 'not traceable' school leavers as dropouts was taken after making an enquiry of the school leavers in some of the selected schools.

The following formula was used to calculate the rate of dropout:

$$\text{Rate of dropout} = \frac{\text{Number of Dropouts in the grade}}{\text{Total Enrolment in the grade}} \times 100$$

To illustrate, suppose there are 100 pupils in grade I in a given year out of which 20 leave the school during the course of the year. Suppose further that of these 20 school leavers, 5 obtain school leaving certificate and 15 do not. On making enquiries about their whereabouts, it is found that out of those who were not issued school leaving certificate, 10 discontinue their studies, 1 joins some other school and 4 are not traceable. Out of those who obtain school leaving certificate, one discontinues studies 3 join some other school and 1 is not traceable. The number of clear cases of dropouts in this case would thus be 11. To this, 60 per cent of the not traceable cases (i.e. $5 \times \frac{60}{100} = 3$) would be added which would give the total number of dropouts as 14 (11 + 3). Substituting the above formula, the rate of dropout in this case would be:

$$\text{Rate of dropout} = \frac{14}{100} \times 100 = 14$$

OBJECTIVE 2: Identifying the Causes of Wastage

It was felt that identifying the causes in respect of pupils who dropped out some years ago may not be so relevant towards reducing the incidence of wastage as the identification of causes in respect of recent dropouts. The assumption behind the argument was that India has been striving for rapid economic and social development and in its midst what was true a decade ago may not be true now. In other words, the causes of wastage or the order of their relative influence might have changed with the ongoing social and economic changes, as the latter have surely repercussions on the former.

Building on this rationale, it was not considered useful to study the causes of wastage with reference to the cases identified while determining the extent by the cohort method. Alternatively, another method was devised. This method as contrasted with the cohort method employed 'year' instead of 'stage' as the time-unit for enquiry. Thus, it meant enlisting the names of all dropouts of all grades from I to VIII. In other words, the method followed did not imply pursuing the same cohort longitudinally or through a number of successive years.

The justification behind studying the dropouts identified by the method followed in the present study is also validated by the fact that cases of wastage ascertained on the basis of a longitudinal study form a part of the population of dropouts. As stated

earlier, the school leavers for the years 1962-63 and 1963-64 were, therefore, listed out in the present study and from the lists so obtained the names of those who were transferred to other schools were struck off. The remaining names on the lists were utilised as frames for drawing out systematic samples of dropouts. Sampling fraction was, however, kept varying depending upon the number of dropouts identified in a school.

The causes of dropping out were studied in relation to certain school variables, pupil variables and family variables. The hypotheses relevant to each of these three orientations have been listed in Chapter I. The dropout phenomenon could not, however, be studied in relation to the variables hypothesized in the community area due to the limitation of time.

The methodology followed in studying the causes involved differentiating dropouts from stayins on a variety of personal and environmental variables. No originality is, however, claimed for the methodology adopted in the present study. It has been used in some of the studies[2] conducted in the U.S.A. In India too, Chickermane[3] in one of his investigations, used this approach with the

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2. Lloyd B. Urdal, and others, Dropouts - An Analysis of Personal Variables within the School Situation, Louis Bruno, State Superintendent of Public Instruction, Olympia, Washington, 1963.

3. D.V. Chickermane, "Influence of Home Circumstances on Wastage in Primary Education", op. cit., p.p.135-139.

only difference that he followed the cohort method involving 'stage' as the temporal unit of enquiry, while in the present study, 'year' has been treated as the time-unit of investigation.

OBJECTIVE 3: Ascertaining the Relative Importance of Causes of Wastage

The relative importance of the causes of wastage was studied by two methods: (i) the discriminant function analysis, and (ii) the opinion poll approach. The first method was introduced by Fisher[4] in 1936 which has been widely used in later years. The method is useful in ascertaining appropriate weights for a series of variables yielding maximum separation between the two chosen groups, each of which is assumed to be normally distributed. By forming a linear function of all the variables used for prediction, the method helps in determining the contribution of each variable to the value of combined distance between the two groups. This, in other words, means that it enables one to determine the relative effectiveness of predictive variables.

In the present study, the method involved fitting a discriminant function to the data regarding the phenomenon of dropout as dependent variable. The score for each pupil and his parents/guardians on each cluster of causes was obtained through the quantification of interview responses on interview schedules for dropouts and stayin" as well as their parents. The quantification was done on the basis of the results of univariate analysis

4. Quoted in: Statistical Methods in Educational and Psychological Research by James E.Wert, Charles O. Neidt and J. Stanley Ahmann, New York: Appleton-Century-Crofts, Inc. 1954. p.263.

(Chi-square x^2). Those variables on which the statistical differences between dropouts and stayins were found to be insignificant, were left out from the quantification scheme. Scoring for the variables, the results of which proved contrary to the hypotheses listed in Chapter I, was done in the reverse order. In all, 21 variables (8 in the pupil area and 13 in the family area) were quantified (for quantification scheme see Appendix V). The discriminant function was attempted wherein weights were ascertained for each of the 21 variables.

The discriminant equation was expressed as under: $v = a_1x_2 + a_2x_2 + a_3x_3 \ldots + a_{21}x_{21}$, where x_1, x_2, x_3 and so forth are numerical variables and a_1, a_2, a_3 and so forth are the coefficients[5]. The coefficients (weights) for the discriminant equation were found by solving a series of simultaneous equations, similar to the normal equations used in multiple regression analysis. With the help of weights thus obtained, the contribution of each of the 21 variables to the numerical value of Δ (Delta), which corresponds to the sum of squares for regression in an analysis dealing with a numerical criterion, was worked out. The simple contributions were converted into percentage contributions. These percentage contributions were then ranked in order and the ranks thus obtained reflected the relative importance of each of the 21 variables used for prediction.

As the relative importance of school factors, which constitute an important part of pupils' environment,

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5. Ibid, p.264.

could not be established through discriminant function analysis, the schools in the present study being the same for both dropouts as well as stayins, it was considered necessary to adopt a more comprehensive approach covering all factors related to the pupil area, the family area and the school area. This was done through eliciting the opinions of parents, teachers and educationists on the importance of causes of wastage.

To elicit opinions, a set of 15 broad causes (five each from the pupil area, the family area and the school area)were identified in the first instance. As it was felt that those 15 clusters of causes could be exposed to different interpretations by different respondents, with the result that responses might lack uniformity, they were broken into 75 statements to form an opinionnaire (Appendix VI). While developing opinionnaire, the findings of the previous studies, the causes given by dropouts and their parents and teachers were also taken into consideration. Parents, teachers and educationists were requested to express their opinion in respect of each statement on a 5-point scale (most important, very important, important, less important and least important) for both primary as well as middle stages of education, separately. To quantify the responses, the scale values of 5,4,3,2,1 corresponding to most important, very important, important, less important and least important were respectively assigned to each of the statements. The total scores for different statements were grouped according to the specific item formation scheme (Appendix VII) so as to get composite scores for each of the 15 clusters of causes.

The composite scores thus obtained were divided by the number of statements in each cluster to get average score for each cluster. The value so obtained was further divided by (N) the number of cases in each group - parents, teachers, educationists). This gave the averaged ratings for each cluster for all the three groups separately. These ratings were ranked for further analysis to establish the relative importance of the causes of dropout as perceived by parents, teachers and educationists.

b) Tools

The tools developed in connection with the study are described below:

School Information Blank This instrument (Appendix I) aims at collecting the identifying data about the school, the information in respect of class-wise enrolment, present strength of trained and untrained teachers, and particulars of school leavers during 1962-63 and 1963-64; qualifications, age, income, family size, social participation of teachers and distance of their residence from the school; school building, teaching aids, furniture and other physical facilities available in the school; examination results of pupils; the money paid by parents to the school or spent by them in purchasing school uniform, stationery and other accessories needed by their wards; the number of prizes won by the school; and the provision for co-curricular activities, etc. In general, in this schedule an attempt was made to collect the data having a fact rather than a value or judgement bias.

Pupil Information Sheet This instrument (Appendices II and III) aims at collecting some biographical material about the pupils (both dropouts and stayins). The items included in the instrument are: date of birth, sex, class to which admitted and the date of admission to school, class from which left and the date of leaving school, reasons for leaving school, details regarding attendance during the year of leaving school, details in respect of achievement in different school subjects, etc.

Interview Schedules for Dropouts and Stayins As contrasted with the first two instruments, these schedules (Appendices II and III) have an opinion rather than fact bias. They aim at collecting perceptual data which can be meaningful in explaining the differences, if any, in the perception and behaviour of dropouts and stayins.

Both the interview schedules for dropouts and stayins include questions which relate to the personal data about the respondent, his perception of teacher, parents and peers on certain referents which largely explain the interactional influences the pupil has at home, in the neighbourhood and in the school. The justification behind examining interactional influences is that they have a major role in shaping the personality of a child, building his ego-ideal, motivation for learning and the need for approval.

Interview Schedules for Parents of Dropouts and Stayins These schedules (Appendices II and III) aim at collecting data having both fact as well as opinion bias. The fact questions seek information on the size, structure and socio-economic status of the family of a dropout or a stayin. The opinion questions pertain to the opinions of parents about the school, need for educating children, etc.

Interview Schedule for Teachers This schedule (Appendix IV) aims at collecting the opinions of teachers on the causes of wastage. Information on incidence due to each cause, as perceived by teachers was also collected. The questions in the schedule are organised in a funnel sequence.

Opinionnaire for Parents, Teachers and Educationists (Appendix VI)

The purpose of this instrument is to elicit the opinions of parents, teachers and educationists on the relative importance of different causes of educational wastage.

c) The Sample

It was decided to select schools for the purpose of this study from a compact area in each of the States of Punjab, Rajasthan and Maharashtra and the Union Territories of Delhi and Himachal Pradesh. As regards the States of Punjab and Rajasthan and the Union Territory of Himachal Pradesh, about 30 per cent of the schools around each of the following three Primary Extension Service Centres were chosen:

i) Primary Extension Service Centre located in Government Normal School, Karnal (Punjab);

ii) Primary Extension Service Centre located in Government Basic Training School, Goverdhan Vilas - Udaipur (Rajasthan); and

iii) Primary Extension Service Centre located in Government Basic Training School, Solan (Himachal Pradesh).

Regarding the State of Maharashtra and the Union Territory of Delhi, about 2 per cent of the total number of schools coming within the jurisdiction of

the Municipal Corporations of Bombay and Delhi were selected for the purpose. The schools were chosen on a systematic sampling basis. In doing so, the procedure adopted was to prepare a frame of schools according to different strata. The various strata into which the population were divided were: (i) schools according to location (urban/rural), (ii) schools according to stage of education (primary/middle), and (iii) schools according to sex (boys, girls, and co-educational). In all 92 schools were included in the sample. An attempt was made to keep the sampling fraction uniform for each stratum. But in the case of certain strata having very few schools, the sampling fraction had to be varied.

790 dropout cases and 485 stayin cases were selected from the sampled 92 schools for studying the causes of dropout. In general, an attempt was made to have at least two dropouts and one stayins from each grade both in primary as well as middle schools selected for the study. The ratio was, however, kept varying depending upon the number of dropouts for each of the selected schools during 1962-63 and 1963-64. The detailed break-up of schools according to different strata and State-wise number of dropouts and stayins chosen for the study are given in Appendix VIII.

To study the relative importance of cuases of wastage through the opinion poll approach, a sub-sample of 25 per cent schools was randomly selected from the sample of 92 schools for the administration of

opinionnaire (Appendix VI) to dropouts' parents and teachers. Opinionnaire was administered to 148 parents and 292 teachers. Besides, it was also mailed to 550 educationists in the States of Maharashtra, Punjab and Rajasthan and the Union Territories of Delhi and Himachal Pradesh of whom 269 (48.8 per cent) responded. An operational definition of the term 'educationist' was adopted for the purpose of this study. Even those educational workers who were directly or indirectly concerned with the problem of wastage and stagnation were treated as educationists. The list of educationists included those scholars who had conducted studies on wastage and stagnation and/or had some theoretical background of the problem; teacher educators working in teacher training schools; research staff of the State Institutes of Education and sub-deputy inspectors/inspectresses of schools and/or education extension officers connected with the inspection of primary and middle schools.

It may be pertinent to strike a note of caution here and that is that the sample is only representative of the population of the schools covered by the three Primary Extension Service Centres included in the study, one each from Punjab, Rajasthan and Himachal Pradesh and the schools covered by the Municipal Corporations of Delhi and Bombay in the case of Union Territories of Delhi and the State of Maharashtra. Thus, wherever, the word 'State/Union Territory' occurs in the report, it denotes one of the Primary Extension Service Centres or the Municipal Corporations under the State/Union Territory

concerned. This limitation of the sample may always be kept in mind while interpreting the results of this study.

d) Mechanics of Data Collection

A description of the instruments developed for the collection of data for each of the three objectives has been given earlier in this Chapter. Also, a reference has been made about the number of schools, the number of pupils, parents, teachers and educationists from whom the data were collected. In this Section, a brief account of the procedures adopted and the machinery involved for collecting the data is being given.

For calculating the rate of dropout in 92 schools included in the sample from the States of Maharashtra, Punjab, Rajasthan and the Union Territories of Delhi and Himachal Pradesh, the relevant data were gathered by the research staff of the project through the School Information Blank (Appendix I).

To study the causes of wastage, interview schedules for dropouts and their parents (Appendix II) and stayins and their parents (Appendix III) were administered through some of the selected teachers of 92 schools chosen for the study. Before the actual administration of interview schedules, those teachers were given intensive training through a training programme of three days' duration organised in each of the five States/Union Territories. The purpose of the training was to thoroughly orient the teachers to the contents of schedules and the techniques of interview, etc. The training programme was conducted by the Principal Investigator with

the help of the research staff of the project. Furthermore, the members of the research staff worked as resource personnel throughout the period the data were being collected so as to provide clarifications sought by the teachers. They were also to guide the teachers and make an on-the-spot scrutiny of the data. As an incentive to the teachers, they were paid Rs.1/- for each of the interview conducted by them. The interview schedule for teachers (Appendix IV) was administered by the research staff of the project.

The parent schedules were administered to fathers. The decision to interview fathers instead of mothers was taken because the social tradition of purdah, so prevalent in this country, makes women inaccessible for any conversation. There are families in which a woman would not talk to an outside man even after keeping herself behind a veil. This difficulty could have been obviated by appointing women interviewers, but it was found difficult to get them.

To ascertain the relative importance of the causes of wastage through the opinion poll approach, the opinionnaire (Appendix VI) was mailed to educationists, while it was personally administered by the research staff to the selected parents and teachers. The decision to have the data collected through the research staff of the project from parents and teachers was taken as it was considered that most of the parents being illiterate would not be able to fill in the opinionnaire and also most of the teachers might not understand the implications of the statements contained therein.

e) Statistical Treatment of Data

To test the variations in the incidence of wastage and stagnation over a period of time (1950-51 to 1963-64) and among different grades, analysis of variance

was used.

The differences between the incidence of wastage and stagnation among boys and girls were measured by calculating the values of 'Z'[6].

The average rate of dropout (arithmetic mean and median) in the selected schools in the States of Maharashtra, Punjab and Rajasthan and the Union Territories of Delhi and Himachal Pradesh was calculated for the years 1962-63 and 1963-64. The range between the rate of dropout in those schools was estimated with the help of semi-interquartile range. To study the differences among States/ Union Territories in the distribution of schools according to their rate of dropout, frequency polygons were drawn and also skewness and kurtosis were worked out.

To ascertain concomitant relationships between the school variables and the rate of dropout, rank correlations were computed. To study the differences between dropouts and stayins on certain pupil variables and family variables, the technique of chi-square and 't' test were used. Furthermore, an attempt was made to analyse the combinations of variables by applying the discriminant function. For this, the quantified data were transferred to punch-cards for mechanical processing on IBM computer 1620.

As stated earlier, two methods were used to determine the relative importance of the causes of wastage: (i) the discriminant function analysis, and (ii) the opinion poll approach. Through the discriminant function, coefficients (weights) were obtained for each of the variables used for prediction. With the help of weights, percentage contribution of each variable towards the numerical value of discriminant function was calculated. In the opinion poll approach, the averaged ratings were computed in respect of teachers, parents and educationists. In order to find out whether there were any significant differences between the averaged ratings of these three groups, 'H' test (non-parametric)[7] was applied.

6. H.M. Walker, Statistical Inference: Oxford & IBH Publishing Co., 1965. p.78

7. Sidney Siegel, Non-parametric Statistics for the Behavioral Sciences, New York: - McGraw Hill Book Co., Inc.1956. p.184.

CHAPTER IV

INCIDENCE OF WASTAGE AND STAGNATION

In this Chapter, an attempt is made to estimate the incidence of wastage and stagnation in primary and middle schools in India. The estimates are based on global figures of grade-wise enrolment for the years 1950-51 through 1963-64 obtained from the Statistical Unit of the Ministry of Education, Government of India. In addition, the rate of dropout per 100 pupils enrolled in the selected schools from the States of Maharashtra, Punjab and Rajasthan and the Union Territories of Delhi and Himachal Pradesh has also been worked out for the years 1962-63 and 1963-64.

I. Estimates Based on All-India Figures of Grade-wise Enrolment.

In order to obtain precise estimates of the incidence of wastage and stagnation, it was considered that mean incidence based on the figures of enrolment in a number of base years be computed. The rationale behind this approach was to balance the effect upon enrolment of incidental factors like sudden and short-lived rise in enrolment figures due to special enrolment drives, etc.

1. Rate of Wastage and Stagnation at the Primary Stage

Following the method detailed in Chapter III, the incidence of wastage and stagnation for the first four grades in relation to the enrolment in grade I during the base years 1950-51 through 1959-60 was calculated. The results obtained are tabulated below:

TABLE 3

Incidence of wastage and stagnation at the primary stage

(Figures in thousands)

Base Year	Enrolment in grade I	Incidence of wastage and stagnation in grades: I	II	III	IV	Total (I-IV)
1950-51	6948	2503	948	500	699	4650
1951-52	7025	2623	754	574	671	4622
1952-53	7396	2696	920	565	580	4761
1953-54	8088	3128	893	600	723	5344
1954-55	9111	3588	1065	772	627	6052
1955-56	9958	4087	1124	727	680	6508
1956-57	10283	4197	1038	800	637	6672
1957-58	10908	4278	1239	858	702	7077
1958-59	11999	4852	1281	846	754	7713
1959-60	12693	5180	1199	931	838	8148
Total	94409	37132	10441	7173	6911	61657

The data presented in the above table was further used to calculate the rate of wastage and stagnation from grade to grade, as a percentage of the enrolment in grade I during the base year. Thus the rate of wastage and stagnation in grade I was computed by dividing 2503 (which is the difference between the enrolment in grade I in the year 1950-51 and grade II in the year 1951-52) by the figure 6948 (enrolment in grade I in 1950-51) and multiplying the fraction thus obtained by 100 . The rates so obtained for different base years are tabulated below:

TABLE 4

Rate of wastage and stagnation at the primary stage per 100 pupils enrolled in grade I

Base Year	Enrolment in grade I (cohort in millions)	Rate of wastage and stagnation in grades: I	II	III	IV	Total (I-IV)
1950-51	6.95	36.02	13.64	7.20	10.05	66.91
1951-52	7.03	37.34	10.73	8.17	9.55	66.79
1952-53	7.40	36.45	12.44	7.63	7.94	64.46
1953-54	8.09	38.67	11.04	7.42	8.94	66.07
1954-55	9.11	39.38	11.69	8.47	6.88	66.42
1955-56	9.96	41.04	11.29	7.30	6.83	66.46
1956-57	10.28	40.81	10.09	7.78	6.19	64.87
1957-58	10.91	39.22	11.36	7.86	6.43	64.87
1958-59	12.00	40.44	10.51	7.05	6.29	64.29
1959-60	12.69	40.81	9.44	7.33	6.60	64.18
Mean of Columns		39.33	11.06	7.59	7.32	65.30

TABLE 5

Rate of wastage and stagnation at the primary stage per 100 pupils enrolled in grade I (Boys)

Base Year	Enrolment in grade I (cohort in millions)	Rate of wastage and stagnation in grades: I	II	III	IV	Total (I-IV)
1950-51	4.76	34.03	12.66	6.53	10.03	63.25
1951-52	4.80	35.09	10.08	7.62	9.26	61.05
1952-53	5.02	34.16	12.12	7.04	7.43	60.77
1953-54	5.47	36.99	10.34	6.75	8.93	63.01
1954-55	6.19	38.23	10.85	8.01	6.48	63.59
1955-56	6.66	39.24	10.77	6.91	6.82	63.74
1956-57	6.77	38.62	9.60	7.46	6.07	61.75
1957-58	7.24	37.89	10.88	6.76	5.99	61.52
1958-59	7.88	38.77	10.11	6.74	5.72	61.34
1959-60	8.34	39.50	9.19	6.75	6.26	61.70
Mean of Columns		37.59	10.53	7.14	7.04	62.30

TABLE 6

Rate of wastage and stagnation at the primary stage per 100 pupils enrolled in grade I (Girls)

Base Year	Enrolment in grade I (cohort in millions)	Rate of wastage and stagnation in				Total grades: (I-IV)
		I	II	III	IV	
1950-51	2.19	40.37	15.74	8.65	10.07	74.83
1951-52	2.22	42.20	12.15	9.34	10.17	73.86
1952-53	2.37	41.30	13.11	8.89	8.72	72.02
1953-54	2.62	42.18	12.44	8.85	8.97	72.44
1954-55	2.92	41.82	13.55	9.44	7.73	72.54
1955-56	3.30	44.66	12.34	8.10	6.85	71.95
1956-57	3.51	45.04	11.05	8.40	6.43	70.92
1957-58	3.67	41.84	12.35	8.24	7.73	70.16
1958-59	4.12	43.62	11.27	7.63	7.36	69.88
1959-60	4.35	43.32	9.93	8.46	7.26	68.94
Mean of Columns		42.85	12.12	8.51	7.88	71.36

The following conclusions can be drawn from the data presented in the above tables:

i) The rate has remained constant through years

As is obvious from table 4, the rate of wastage and stagnation at the primary stage is 65.30 per cent. The rate has remained more or less constant[1] during the years under investigation, despite the rise in per pupil expenditure both at current as well as constant prices. A constant rate of wastage and stagnation implies an increase in wastage both in absolute and relative terms. The former is explained by the fact that enrolment increases every

1. Assuming the years 1950-51 to 1959-60 as a time sample, the constancy of the rate was statistically inferred by using F test. The F ratios were worked out on the basis of two criteria analysis. The values of F for the variation among rows (tables 4,5 and 6) were found to be .102, .864 and .109 which are insignificant. The null hypothesis that there are no differences in the rate of wastage and stagnation during the years under consideration (i.e. 1950-51 to 1959-60) was, therefore, retained.

year and, therefore, with a constant rate of wastage the total or absolute figures increase. The latter is explained by the fact that since the cost of education per year per child has risen at constant prices, the dropping out of a child or grade repetitions by him means wastage of more money and effort now than what it meant some years ago. For both these reasons, the constancy of the rate of wastage and stagnation is a matter of serious concern to which increasing attention has to be paid.

ii) Enrolment drives and indiscriminate expansion as variables behind the constancy of the rate

The constancy of the rate of wastage and stagnation is really unfortunate, although the picture may not be as grim as it appears to be on its face value. In fact, even a constant rate, as is apparent from the data, actually means a declining proportion. This is explained by the fact that because of expansion drives and enrolment campaigns, children of lower socio-economic groups which earlier contributed little towards school enrolment have started attending schools. And since these children have a greater probability of grade repetition or dropping out, the larger percentage of wastage and stagnation among them may perhaps be offsetting the reduction, if any, achieved in other groups and thus the average remains constant. To illustrate, 100 children are on roll in grade I in the year 'n' and the rate of wastage and stagnation among them is 60 per cent. Two years later, that is, in the year 'n + 2' the rate falls to 40 per cent but in the meanwhile children from lower socio-economic groups are admitted in schools and the rate of wastage and

stagnation among them is 80 per cent, the average rate for both these types of children would come to 60 per cent, although actually the rate in the original group had fallen to 40 per cent. Additions to school enrolment due to enrolment drives may, therefore, be an intervening variable which distorts the estimation of the real rate.

iii) <u>There are grade to grade differences in the rate of wastage and stagnation</u>

The rate of wastage and stagnation significantly differs as pupils move from grade to grade[2]. As is evident from table 4, the rate is highest (39.33 per cent) when children move from grade I to II. It is 11.06 per cent when they go from grade II to III. It is almost the same in grades III(7.59 per cent) and IV (7.32 per cent). This means that the chances of a pupil's wastage and stagnation are highest in grade I. The probability of his continuing in school and passing each grade in one year increases as he proceeds from grade I to the next higher grade till he reaches grade III. In grades III and IV, the probability remains more or less constant.

iv) <u>The rate of wastage and stagnation is higher among girls than among boys</u>

The differences between the rate of wastage and stagnation among boys (62.30 per cent) and girls (71.36 per cent) are highly significant.[3] The rate of wastage and stagnation

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2. The values of F obtained for grade-wise variations for the data presented in tables 4,5 and 6 were 1026.249, 713.299 and 374.064 respectively, which are highly significant.

3. The value of Z was found to be 884.591, which is highly significant.

among boys is 37.59 per cent between grades I and II, 10.53 per cent between grades II and III, 7.14 per cent between grades III and IV and 7.04 per cent between grades IV and V and that among girls is 42.85 per cent between grades I and II, 12.12 per cent between grades II and III, 8.51 per cent between grades III and IV and 7.88 per cent between grades IV and V. This indicates that except between grades I and II, there are minor differences between the rate of wastage and stagnation among boys and girls in other grades.

2. Rate of Wastage and Stagnation at the Middle Stage

The analysis of the enrolment data for calculating the rate of wastage and stagnation at the primary stage was also extended to the middle stage. Accordingly, the enrolment in grade VIII in a given year was subtracted from the enrolment in grade VI, two years earlier, and the percentages were worked out. The raw enrolment data are given in table 7 and the data converted into percentages in tables 8,9 and 10 below:

TABLE 7

Incidence of wastage and stagnation at the middle stage

(Figures in thousands)

Base Year	Enrolment in grade VI	Incidence of Wastage and stagnation in grades: VI	VII	Total (VI-VII)
1950-51	1246	133	181	314
1951-52	1400	232	160	392
1952-53	1468	195	196	391
1953-54	1547	173	214	387
1954-55	1597	161	204	365
1955-56	1698	155	230	385
1956-57	1862	237	186	423
1957-58	1990	195	261	456
1958-59	2206	277	196	473
1959-60	2593	372	201	573
1960-61	2727	289	215	504
1961-62	3013	341	129	470
Total	23347	2760	2373	5133

TABLE 8

Rate of wastage and stagnation at the middle stage per 100 pupils enrolled in grade VI

Base Year	Enrolment in grade VI (cohort in millions)	Rate of wastage and stagnation in grades: VI	VII	Total (VI-VII)
1950-51	1.25	10.67	14.53	25.20
1951-52	1.40	16.57	11.43	28.00
1952-53	1.47	13.29	13.35	26.64
1953-54	1.55	11.18	13.83	25.01
1954-55	1.60	10.08	12.77	22.85
1955-56	1.70	9.12	13.54	22.66
1956-57	1.86	12.72	9.99	22.71
1957-58	1.99	9.85	13.12	22.97
1958-59	2.20	12.55	7.12	19.67
1959-60	2.59	14.35	7.75	22.10
1960-61	2.73	10.59	7.89	18.48
1961-62	3.01	11.32	4.28	15.60
Mean of Columns		11.82	10.16	21.98

TABLE 9

Rate of wastage and stagnation at the middle stage per 100 pupils enrolled in grade VI (Boys)

Base Year	Enrolment in grade VI (cohort in millions)	Rate of wastage and stagnation in grades: VI	VII	Total (VI-VII)
1950-51	1.02	9.26	14.28	23.54
1951-52	1.14	16.09	11.02	27.11
1952-53	1.19	13.57	12.41	25.98
1953-54	1.24	10.34	13.75	24.09
1954-55	1.27	9.24	12.64	21.88
1955-56	1.34	9.19	13.24	22.43
1956-57	1.44	12.14	9.44	21.58
1957-58	1.53	9.35	12.21	21.54
1958-59	1.68	11.84	6.90	18.74
1959-60	1.94	13.58	6.71	20.29
1960-61	2.04	10.32	6.98	17.30
1961-62	2.24	11.34	3.17	14.51
Mean of Columns		11.37	9.06	20.43

TABLE 10

Rate of wastage and stagnation at the middle stage per 100 pupils enrolled in grade VI (Girls)

Base Year	Enrolment in grade VI (cohort in millions)	Rate of wastage and stagnation in grades: VI	VII	Total (VI-VII)
1950-51	.23	16.88	16.01	32.89
1951-52	.26	18.67	13.23	31.90
1952-53	.28	12.84	18.67	31.51
1953-54	.31	14.56	14.25	28.81
1954-55	.33	12.76	13.37	26.13
1955-56	.36	8.86	14.68	23.54
1956-57	.42	14.73	11.87	26.60
1957-58	.46	9.38	16.15	25.53
1958-59	.53	14.80	11.01	25.81
1959-60	.66	16.62	10.82	27.44
1960-61	.69	11.42	10.55	21.97
1961-62	.77	11.24	7.49	18.73
Mean of Columns		13.37	12.58	25.95

The data presented in the above tables lead to the following generalisations:

i) The rate through the years has not significantly changed

Table 8 indicates that the combined rate of wastage and stagnation at the middle stage is 21.98 per cent. It further shows that the rate varies from 15.60 per cent in 1961-62 to 28.00 per cent in 1951-52. In general, a declining trend is discernible from the data. The statistical analysis, however, reveals that as at the primary stage, the rate at the middle stage also has not significantly altered during the years under investigation.[4] This may perhaps be due to the enrolment drives at the primary stage which, in turn, may have generated pressures on the enrolment at the middle stage.

4. The values of F for the variations among rows (tables 8, 9 and 10) were found to be .634, .575 and .890, which are insignificant.

ii) <u>There is no uniform pattern in the rate in different grades</u>

The year to year pattern of the rate in grades VI and VII, as shown in table 8, does not appear to be uniform through all the years under consideration. For example, in the years 1950-51, 1952-53, 1953-54, 1954-55, 1955-56 and 1957-58, the rate of wastage and stagnation was lower in grade VI than in grade VII, while in the remaining years it was vice-versa.

iii) <u>The rate does not differ between grades</u>

Although there are variations in the rate of wastage and stagnation in grades VI and VII in different years, no significant differences exist between the column means which are 11.82 and 10.16 respectively (table-8). Statistically also, the differences in the rate between grades were found to be insignificant[5].

iv) <u>The rate of wastage and stagnation is higher among girls than among boys</u>

The rate of wastage and stagnation among girls is 25.95 per cent as against 20.43 per cent among boys. The statistical analysis of the data also confirmed that the differences between the rate among girls and boys were highly significant[6].

3. <u>Rate of Wastage and Stagnation in Elementary Education</u>

The rate of wastage and stagnation was calculated for grades I through VIII also. The relevant data are presented in the following tables:

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5. The values of F obtained for gradewise variations for the data presented in tables 8,9 and 10 were .704, .693 and .008 respectively.

6. The value of Z obtained was 269.231.

TABLE 11

Rate of wastage and stagnation in elementary education per 100 pupils enrolled in grade I

Base Year	Enrolment in grade I (cohort in millions)	Rate of wastage and stagnation in grades: I	II	III	IV	V	VI	VII	Total (I-VII)
1950-51	6.95	36.02	13.64	7.20	10.05	8.66	2.23	3.31	81.11
1951-52	7.03	37.34	10.73	8.17	9.55	7.70	3.37	2.66	79.52
1952-53	7.39	36.45	12.44	7.63	7.94	8.84	2.67	3.57	79.54
1953-54	8.09	38.67	11.04	7.42	8.94	6.64	3.41	2.42	78.54
1954-55	9.11	39.38	11.69	8.47	6.88	5.11	4.08	2.21	77.82
1955-56	9.96	41.04	11.29	7.30	6.83	6.16	2.90	2.16	77.68
1956-57	10.28	40.81	10.09	7.78	6.19	5.82	3.32	1.25	75.26
Mean of Columns		38.87	11.48	7.73	7.86	6.82	3.18	2.41	78.35

TABLE 12

Rate of wastage and stagnation in elementary education per 100 pupils enrolled in grade I (Boys)

Base Year	Enrolment in grade I (cohort in millions)	Rate of wastage and stagnation in grades: I	II	III	IV	V	VI	VII	Total (I-VII)
1950-51	4.76	34.03	12.66	6.53	10.03	8.67	2.58	3.72	78.22
1951-52	4.80	35.09	10.08	7.62	9.26	7.93	3.64	2.85	76.47
1952-53	5.02	34.16	12.12	7.04	7.43	8.76	2.83	3.72	76.06
1953-54	5.47	36.99	10.34	6.75	8.93	5.83	4.81	2.38	76.03
1954-55	6.19	38.23	10.85	8.01	6.48	5.15	4.25	2.10	75.07
1955-56	6.66	39.24	10.77	6.91	6.82	5.71	3.15	2.13	74.73
1956-57	6.77	38.62	9.60	7.46	6.07	5.18	3.75	1.05	71.73
Mean of Columns		36.90	10.84	7.21	7.66	6.62	3.44	2.42	75.09

TABLE 13

Rate of wastage and stagnation in elementary education per 100 pupils enrolled in grade I (Girls)

Base Year	Enrolment in grade I (cohort in millions)	Rate of wastage and stagnation in grades: I	II	III	IV	V	VI	VII	Total (I-VII)
1950-51	2.19	40.37	15.74	8.65	10.07	8.65	1.46	2.43	87.37
1951-52	2.22	42.20	12.15	9.34	10.17	7.20	2.79	2.25	86.10
1952-53	2.37	41.30	13.11	8.89	8.72	8.68	2.23	3.12	86.05
1953-54	2.62	42.18	12.44	8.85	8.97	7.48	2.94	3.05	85.91
1964-55	2.92	41.82	13..55	9.44	7.73	5.03	3.73	2.43	83.73
1955-56	3.30	44.60	12.34	8.10	6.85	7.06	2.40	2.21	83.62
1956-57	3.51	45.04	11.05	8.40	6.43	7.03	2.48	1.65	82.08
Mean of Columns		42.76	12.77	8.76	8.24	7.20	2.61	2.40	84.74

The following broad conclusions can be drawn from the above tables:-

i) The rate has remained constant through Years

The combined rate of wastage and stagnation is 78.35 per cent (table-11) by the time children reach grade VIII. The rate has not significantly changed during the period under investigation (col.10 of tables 11-13)[7].

ii) There are grade to grade differences in the rate of wastage and stagnation

Tables 11-13 further show that the rate is highest (38.87, 36.90 and 42.76 per cent) in grade I, which decreases as the pupils move from lower to higher grades. In grade II the rate is fairly high, while in grades III-V, it is small but steady. Beyond grade V, the rate is very low. Statistically also the variations in the rate among grades were found to be highly significant.[8]

iii) The rate is higher among girls than among boys

The rate of wastage and stagnation is higher among girls (84.74 per cent) than among boys (75.09 per cent).[9] The larger overall figure for girls is perhaps due to higher rate in grades I and II.

4. Proportions of Wastage and Stagnation

The foregoing analysis provides global estimates of the combined rate of wastage and stagnation. What fractions of these global figures account for wastage and

7. The variation in the incidence of wastage and stagnation during the years under consideration was statistically found to be insignificant, as the values of F were .316, .852 and .334.
8. The values of F obtained for grade-wise variations were 642.714, 356.505 and 841.189.
9. The difference between the incidence of wastage and stagnation among boys and girls was statistically found to be significant, the value of Z being 841.88.

stagnation each separately need to be calculated through special studies. An earlier study[10] which is local in nature, shows that the rate of wastage and stagnation in the first four grades of primary schools is about 79 per cent, of which wastage accounts for 41.4 per cent and stagnation 37.5 per cent. The former figure of 41.4 per cent includes many of those students as well who leave school prematurely due to stagnation. If these are added to the stagnation rate of 37.5 per cent, stagnation rate will probably go up as high as 60 per cent. If it is really so, the problem of wastage and stagnation will then primarily be a problem of reducing stagnation. However, before this figure is accepted, it is worthwhile to estimate on the basis of a large sample the rate of stagnation and the rate of wastage due to stagnation at the national level. In this connection, it may be pointed out that this Department in collaboration with the Educational Survey Unit of the National Council of Educational Research and Training has recently taken up a separate project to study the rate of stagnation on a nationwide basis. For this, a 2 per cent sample of community development blocks and towns/cities in the country has been randomly selected which consists of 111 community development blocks and 84 towns/cities. The relevant data are being collected from all the primary/middle schools and also from those secondary schools that have primary and middle classes attached to them, in the selected community development blocks and towns/cities. A report of the study will be brought out in due course.

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10. Directorate of Education, Bombay (Research Unit), op. cit., pp.11-12.

II. Rate of Dropout in Sampled Schools

The rate of dropout was calculated for the years 1962-63 and 1963-64 in the sampled schools selected from the States of Maharashtra, Punjab and Rajasthan and the Union Territories of Delhi and Himachal Pradesh. The table below presents the data regarding the distribution of schools according to their rate of dropout for these two years:

TABLE 14

Distribution of schools according to the rate of dropout.

Rate of Dropout	Number of Schools									
	Maharashtra		Punjab		Rajasthan		Delhi		Himachal Pradesh	
	1962-63	1963-64	1962-63	1963-64	1962-63	1963-64	1962-63	1963-64	1962-63	1963-64
0 to less than 2	4	7	5	6	3	3	2	1	2	2
2.0 -do- 4	3	-	1	2	2	3	3	2	2	3
4.0 -do- 6	1	4	3	1	1	3	4	4	5	5
6.0 -do- 8	2	1	2	-	3	2	5	7	3	3
8.0 -do- 10	4	1	1	1	2	-	2	1	1	1
10.0 -do- 12	-	1	1	2	1	3	1	1	2	1
12.0 -do- 14	5	3	-	1	1	-	3	3	1	1
14.0 -do- 16	4	3	-	-	-	-	0	1	-	1
16.0 -do- 18	-	1	-	-	1	-	1	1	1	-
18.0 -do- 20	1	2	-	-	-	-	-	-	-	-
20.0 -do- 22	-	1	-	-	-	1	-	-	-	-
22.0 and above	2	2	-	-	-	-	-	-	-	-
Total	26	26	13	13	14	15	21	21	17	17

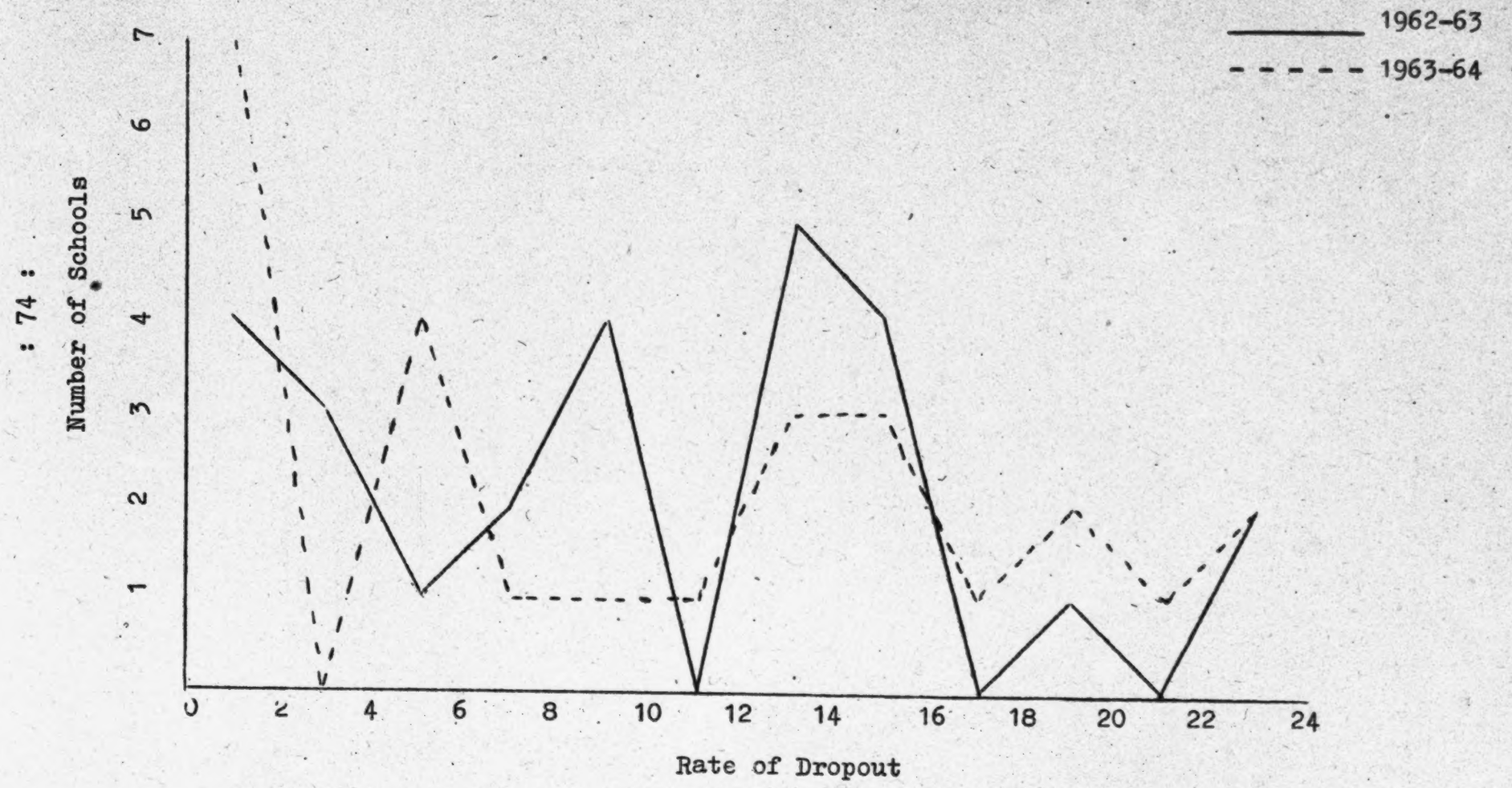
*Of the fifteen schools included in the sample it was not possible to get data from one school.

It appears from the above table that there are differences among States in the distribution of schools according to their rate of dropout. These differences become more apparent on an inspection of the graphical presentations that immediately follow. All the scatters in the graphs are not easily amenable to curve fitting in the sense that

they are indicative of parabolas of high degrees. Furthermore, the fitting of curves does not seem to be necessary or plausible since it is not intended to study any trends for extrapolation. The intension is only to have an inter-State graphic view which is served by the diagrams in their present form and from the averages and range presented in tables 15 and 16 on page 79.

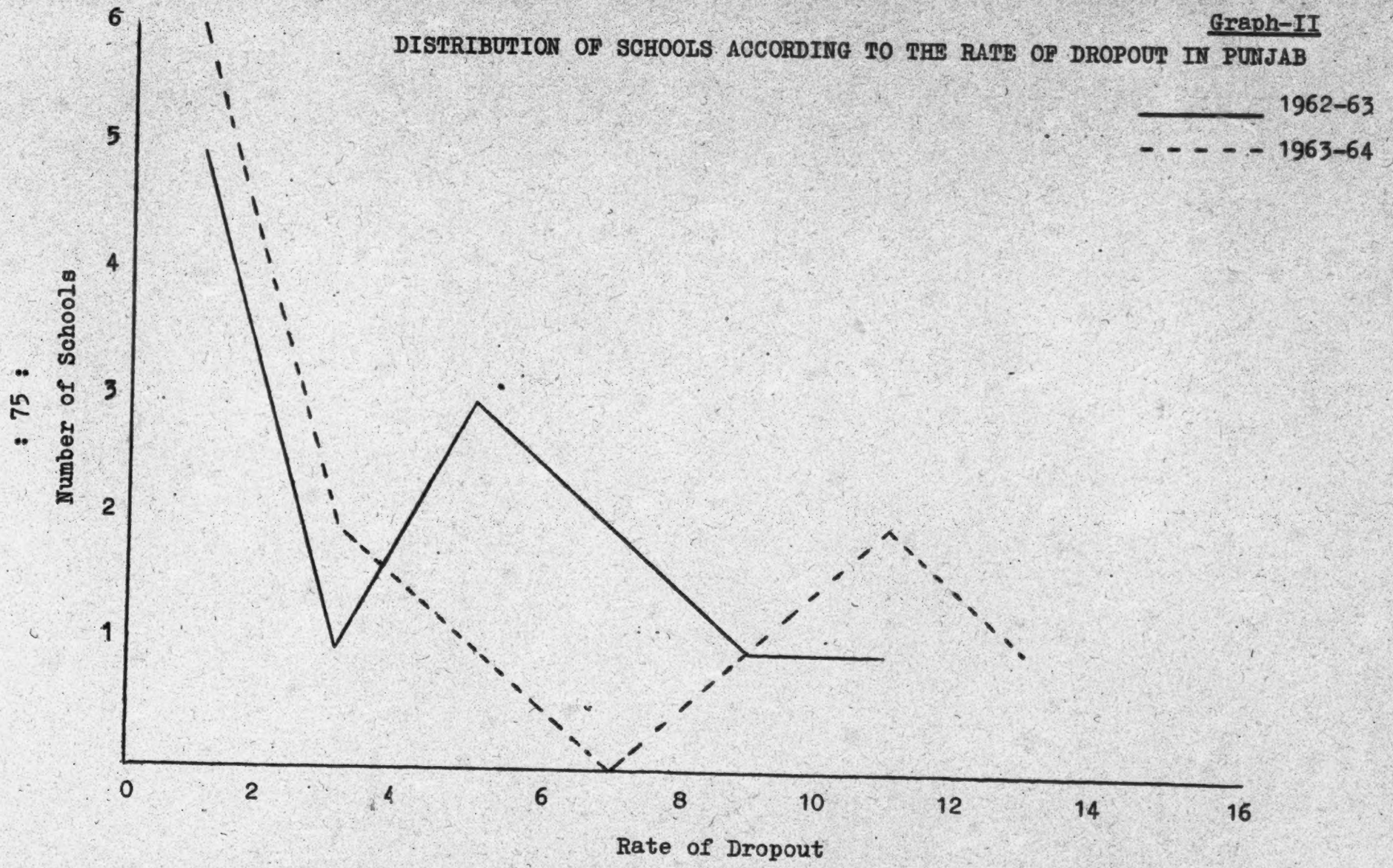
Graph-1

DISTRIBUTION OF SCHOOLS ACCORDING TO THE RATE OF DROPOUT IN MAHARASHTRA



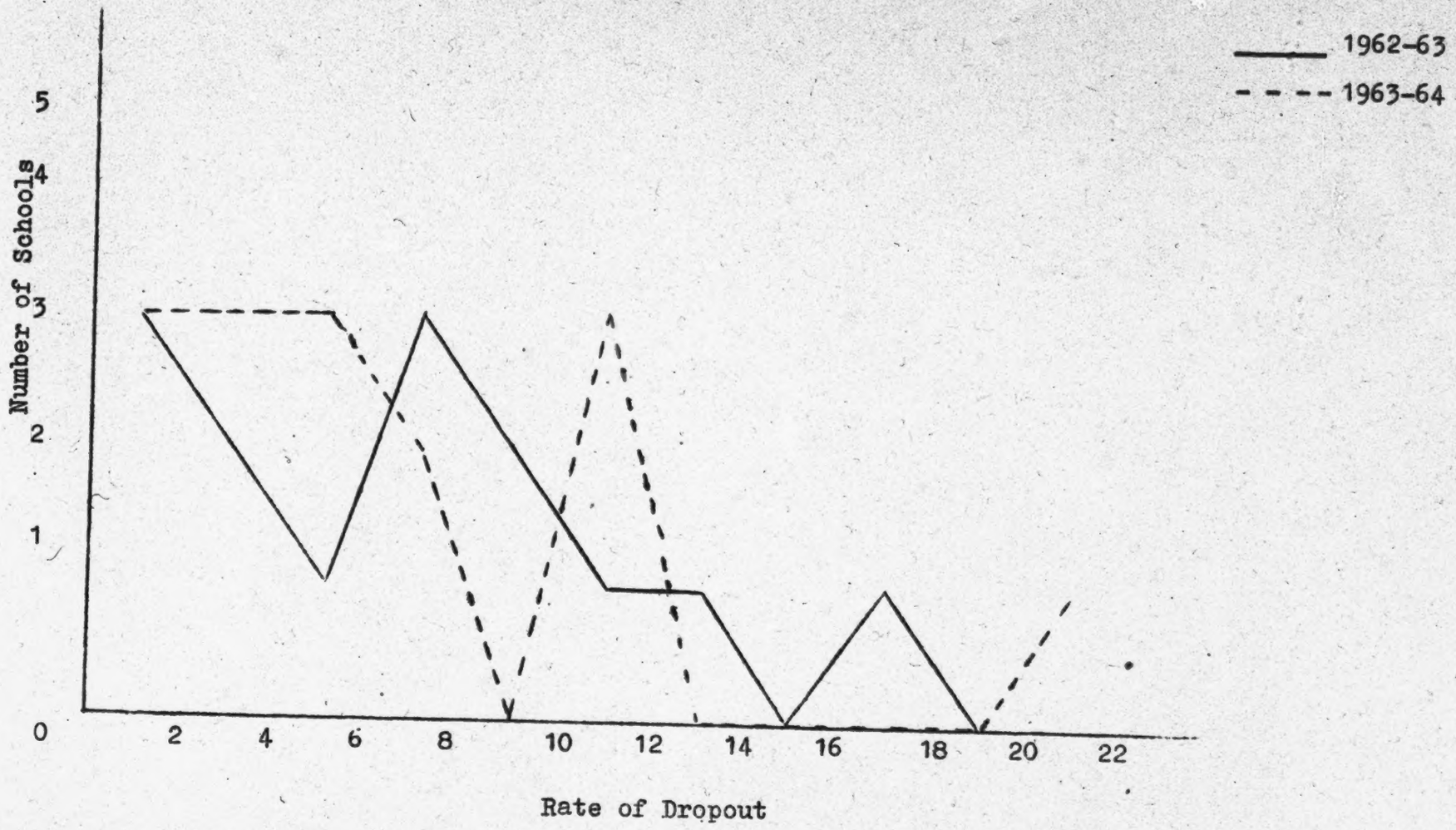
Graph-II

DISTRIBUTION OF SCHOOLS ACCORDING TO THE RATE OF DROPOUT IN PUNJAB



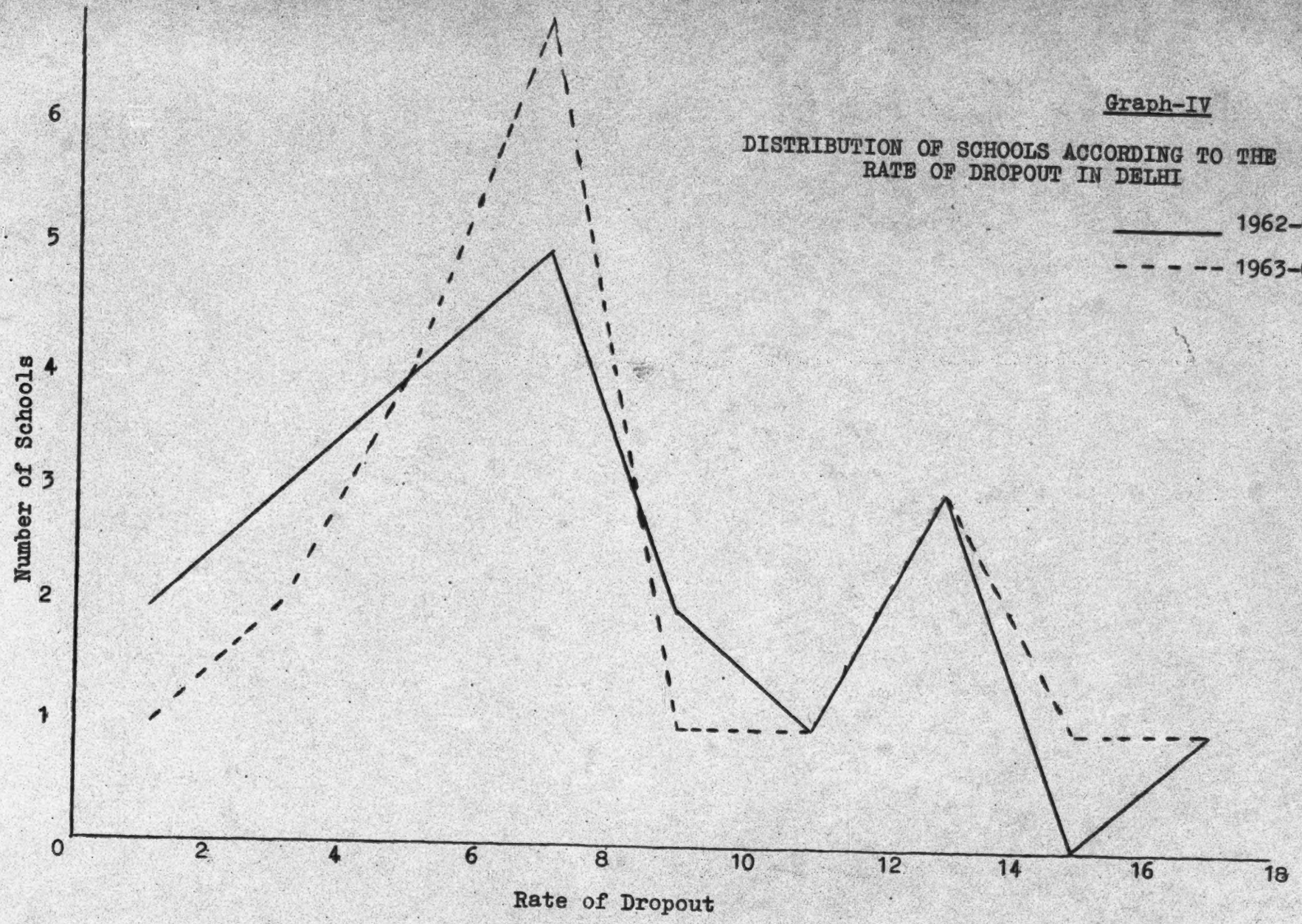
Graph-III

DISTRIBUTION OF SCHOOLS ACCORDING TO THE RATE OF DROPOUT IN RAJASTHAN



Graph-IV

DISTRIBUTION OF SCHOOLS ACCORDING TO THE RATE OF DROPOUT IN DELHI



Graph-V

DISTRIBUTION OF SCHOOLS ACCORDING TO THE RATE OF DROPOUT IN HIMACHAL PRADESH

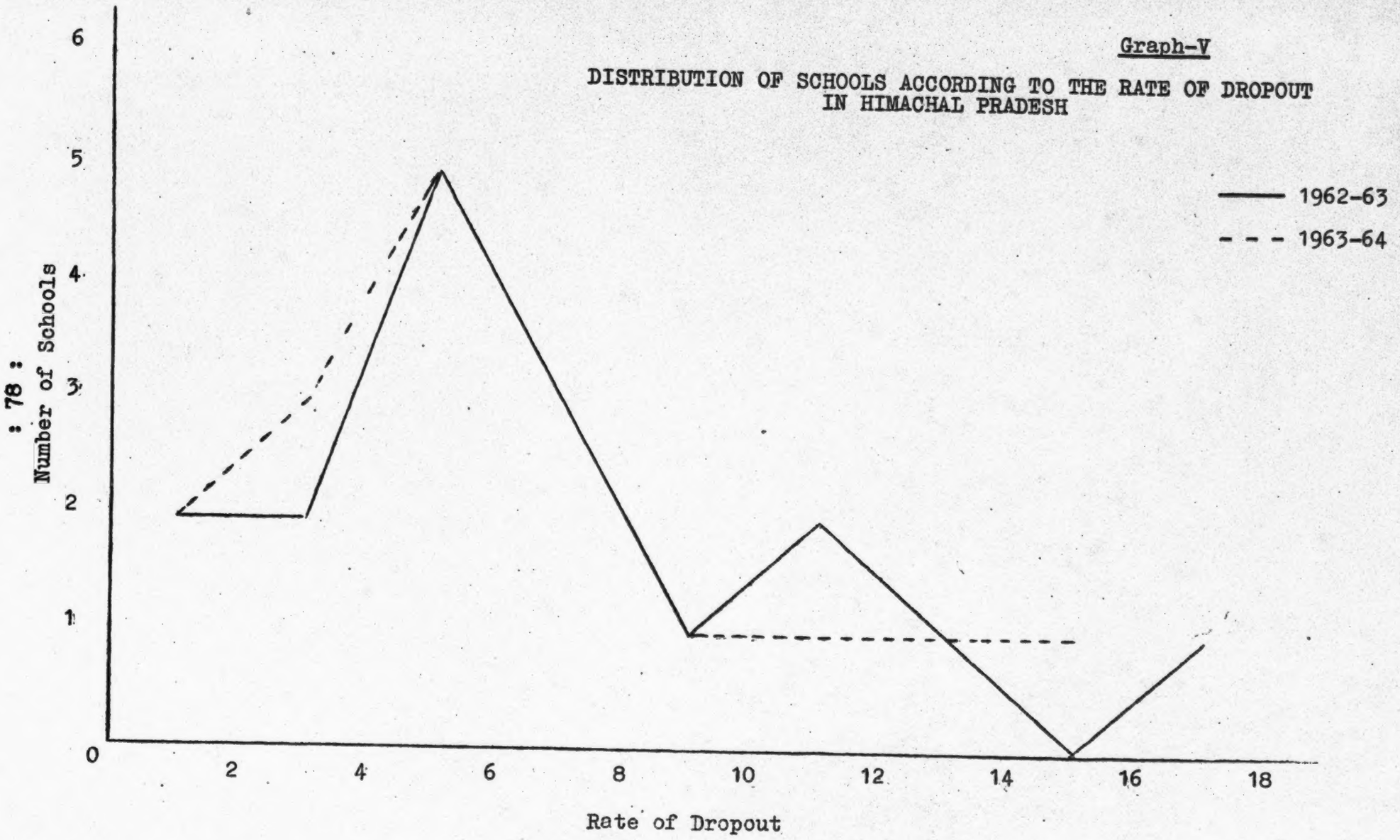


TABLE 15

Average rate of dropout in schools in different States/Union Territories.

Type of Average	Rate of Dropout									
	Maharashtra		Punjab		Rajasthan		Delhi		Himachal Pradesh	
	1962-63	1963-64	1962-63	1963-64	1962-63	1963-64	1962-63	1963-64	1962-63	1963-64
Mean	10.42	10.32	4.38	4.69	6.71	6.33	7.19	7.95	6.77	6.19
Median	9.44	9.72	4.33	2.50	6.56	5.00	6.61	7.00	5.80	5.40

TABLE 16

Range of rate of dropout in different States/Union Territories

Sl. No.	State/Union Territory	Semi-Inter-Quartile Range 1962-63	1963-64
1.	Maharashtra	5.76	3.50
2.	Punjab	2.73	2.46
3.	Rajasthan	3.50	3.84
4.	Delhi	2.81	3.18
5.	Himachal Pradesh	4.03	2.17

The frequency diagrams and tables 15 and 16 indicate the differences in the average rate and distribution of dropouts. Not only this, the pattern of distribution is also different among different areas. One would not expect this normally. One expects that a few schools have a high rate of dropout and as the rate increases, the number of schools declines, meaning thereby that the distribution conforms, more or less, to a rectangular hyperbola which with the present data appears to be true only in the case of Punjab. In Delhi, the data

seem to approximate to a normal distribution. The skewness and kurtosis for the year 1962-63 (calculated on percentile basis) are respectively 1.0 and .266 which indicate a slightly positive but mesokurtic (normal) curve. A similar curve fits into the data for the year 1963-64. The data for Himachal Pradesh also seem to approximate to a normal curve with slight positive skewness, while those for Maharashtra and Rajasthan probably fit into a straight line.

The foregoing differences in the shape of frequency polygons (graphs I-V), in the average rate of dropout among States/Union Territories (table-15) and its variability among schools (table-16) pose certain questions which need to be answered. Some of these questions are: Why is the rate of dropout different among schools in the same State?[11] Why do two schools located in the same area have different rates of dropout ? Is the difference explained by factors specific to schools ? Or is it due to the differences among pupils ? Or is it due to family variables ? Before answers to these questions are attempted, as they have been in subsequent Chapters, it may probably be interesting to review the data regarding the differences in the rate of dropout among primary and middle stages of education, among boys and girls, among schools located in rural and urban areas, and among schools under different managements, etc.

---

11. Incidentally, it may be repeated here that from the States of Punjab and Rajasthan and the Union Territory of Himachal Pradesh, only those schools were selected for study which were attached to one of the Primary Extension Service Centres, whereas from the State of Maharashtra and the Union Territory of Delhi, the schools taken were under the jurisdiction of the Municipal Corporations of Bombay and Delhi.

1. Rate of dropout at primary and middle stages of education

The data in respect of differences in the rate of dropout in different grades (I-VIII) and in the primary and middle stages of education are presented in the table below:

TABLE 17

Rate of dropout according to grades and stages of education

Grade	Rate of Dropout									
	Maharashtra		Punjab		Rajasthan		Delhi		Himachal Pradesh	
	1962-63	1963-64	1962-63	1963-64	1962-63	1963-64	1962-63	1963-64	1962-63	1963-64
I	15.2	17.1	4.1	6.7	8.5	8.7	5.6	10.2	8.9	6.8
II	9.1	8.3	1.7	5.1	4.1	4.9	6.1	6.6	6.2	6.6
III	7.9	7.3	2.5	4.2	6.2	3.7	7.1	5.3	4.4	4.5
IV	8.7	7.4	1.9	2.3	4.4	4.2	4.5	3.8	8.7	4.2
V	9.2	8.2	5.0	3.7	5.9	4.6	4.7	4.2	8.0	7.6
VI	11.2	7.4	11.0	9.2	3.9	4.0	11.1	11.2	11.2	7.1
VII	8.9	10.7	12.0	13.2	5.7	5.9	14.1	9.4	8.6	12.1
VIII	---	---	7.4	7.7	2.4	7.6	8.2	13.9	15.4	3.7
Total* I-V (Primary Stage)	11.0	11.1	2.9	4.9	6.1	5.8	5.6	6.7	7.3	6.0
VI-VIII (Middle Stage)	9.8	8.6	3.3	10.4	4.1	5.6	11.3	11.4	11.1	7.7
I-VIII (Elementary Education)	10.7	10.4	6.9	10.2	5.5	5.7	6.6	7.4	8.4	6.4

*In Maharashtra, the pattern of school classes is different from that obtaining in other States/Union Territories studied here. The figures for Maharashtra pertain to grades I-IV, V-VII and I-VII.

From the foregoing table, it is evident that the rate of dropout is higher at the middle stage than at the primary stage in all States except Maharashtra and Rajasthan, where the differences do not seem to be significant. The question then arises: if the movement of the rate is not erratic, as perhaps it may be, does the higher rate of dropout at the

middle stage not contradict the finding of the previous section in this Chapter that the extent of wastage and stagnation is higher at the primary stage than at the middle stage ? It does not, because the definitions of each of the terms 'wastage' and 'dropout' are different. The difference in the definitions has been explained earlier in Chapter III(p.44-footnote 1) and need not be repeated here. Again, on the basis of the data obtained for only two years from a few schools, one cannot say with precision whether or not the visible trend really exists.

Notwithstanding the foregoing discussion, one may argue that usually if not invariably, the absolute number of dropouts through successive years from the beginning to the last grade of the stage and the quantum of wastage at that stage should be similar in trend. To illustrate, if wastage at the primary stage is n and the dropouts are r_1 in the 1st year, r_2 in the 2nd year, r_3 in the 3rd year, r_4 in the 4th year and r_5 in the 5th year, the total of dropouts through different years, i.e. $rp(rp = r_1+r_2+r_3+r_4+r_5)$ will normally be correlated positively with the variable n . But this correlation does not preclude the possibility that a higher rate of dropout at the middle stage cannot exist with a higher extent of wastage at the primary stage, because wastage at the primary stage is calculated for five grades (I through V), while the total dropout at the middle stage takes into account a period of three years (grades VI through VIII).

2. Rate of dropout according to sex

The data were analysed sex-wise also for the States of Maharashtra, Punjab and Rajasthan and the Union Territory of Himachal Pradesh. However, due to certain difficulties, the data in this regard could not be obtained from schools in the Union Territory of Delhi. The figures in respect of dropout according to sex for the years 1962-63 and 1963-64 are presented in tables 18 and 19 below:

TABLE 18

Rate of dropout according to sex - 1962-1963

Grade	Maharashtra		Punjab		Rajasthan		Himachal Pradesh	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
I	15.7	14.7	4.6	3.9	7.5	10.4	7.4	12.9
II	10.1	8.0	2.1	1.5	4.1	4.1	7.6	2.1
III	8.5	7.3	2.6	2.4	6.6	5.8	4.8	3.3
IV	9.1	8.2	1.9	1.9	4.8	4.1	9.6	5.8
V	9.7	8.5	4.5	5.2	4.3	7.2	8.4	6.0
VI	11.4	11.0	12.5	0.0	6.1	2.6	11.9	7.4
VII	9.2	8.6	13.0	0.0	6.9	4.9	8.1	12.5
VIII	---	---	7.3	9.1	5.6	0.8	14.8	20.0
Total I-V	11.6	10.3	3.3	3.5	5.8	6.5	7.4	7.1
VI-VIII	10.2	9.3	11.3	2.2	6.2	2.9	11.6	12.7
I-VIII	11.2	10.1	4.7	2.9	5.9	5.5	8.5	7.9

TABLE 19

Rate of dropout according to sex - 1963-64

Grade	Rate of Dropout							
	Maharashtra		Punjab		Rajasthan		Himachal Pradesh	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
I	17.2	17.1	9.6	3.7	8.9	8.4	7.3	6.1
II	8.5	8.0	7.6	3.3	5.7	3.9	6.3	7.2
III	7.9	6.6	5.2	2.9	5.3	2.4	4.6	4.1
IV	7.0	7.9	1.7	3.0	5.5	2.8	5.1	1.5
V	8.5	7.8	5.3	2.4	6.3	3.1	7.4	8.2
VI	6.7	8.6	10.2	0.0	4.0	4.0	7.2	6.9
VII	13.6	7.3	13.2	14.3	5.9	6.0	13.4	4.3
VIII	---	---	7.7	7.1	2.3	10.7	3.7	3.3
Total								
I-V	11.1	10.0	6.5	3.3	6.9	4.4	6.2	6.6
VI-VIII	9.0	8.0	10.7	7.7	4.1	6.4	8.1	5.0
I-VIII	10.6	10.3	7.3	3.4	6.4	5.0	6.7	5.5

The spelled out data given in the above tables further support the hypothesis that in Maharashtra and Rajasthan the rate of dropout is not different at the primary and the middle stages of education. In fact, no consistent trend emerges from the data. In one year, the rate is higher, and in the other, it is lower. It may be further added that in Rajasthan the figure of 2.9 for girls in 1962-63 is conspicuously low, perhaps because the number of girls included in the sample was very small in relation to that of boys. For similar reasons, it cannot be said that there are any consistent single-directional differences in the rate of dropout for girls at the primary and middle stages of education in Himachal Pradesh. The rate for boys, of course, appears to be higher and needs to be further examined over a larger sample and a longer period of time if precise estimates are to be obtained. A similar conclusion is also evident from the data of the Punjab State.

3. Rate of dropout according to location of schools

The rate of dropout in rural and urban schools was worked out for the years 1962-63 and 1963-64 separately. The data are presented in tables 20 and 21 below:

TABLE 20

Rate of dropout in rural and urban schools 1962-63

Grade	Rate of Dropout									
	Maharashtra		Punjab		Rajasthan		Delhi		Himachal Prades	
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
I	16.3	10.7	2.2	7.8	4.5	14.6	5.5	5.9	9.7	7.4
II	9.7	6.3	1.6	2.2	4.4	3.1	6.3	5.8	6.4	4.5
III	8.2	6.5	2.7	3.6	4.9	11.8	7.4	5.6	4.0	3.3
IV	9.3	6.1	.9	3.5	4.1	6.1	4.9	3.1	6.3	9.0
V	9.2	8.7	1.7	8.1	5.4	9.8	5.4	2.2	2.6	14.4
VI	11.7	6.7	There are no urban middle schools	11.0	3.7	5.7	12.4	-	7.8	20.4
VII	8.7	10.9	-Do-	12.0	5.5	7.1	15.5	5.3	0.9	6.8
VIII	-	-	-Do-	7.4	2.1	5.5	7.6	10.2	13.3	21.4
Total I-V VI-	11.7	7.9	1.9	5.5	4.7	10.8	5.9	4.8	6.3	7.1
VIII	11.2	8.0	1.9	3.8	4.4	10.3	7.0	5.1	7.2	8.3
I-VIII	9.9	8.5	-	3.3	3.8	6.2	12.1	5.8	8.5	17.0

TABLE 21

Rate of dropout in rural and urban schools 1963-64

Grade	Rate of Dropout									
	Maharashtra		Punjab		Rajasthan		Delhi		Himachal Pradesh	
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
I	17.3	16.2	4.9	10.4	6.8	11.5	11.4	7.6	7.1	6.7
II	8.8	6.1	3.6	8.0	4.5	6.1	6.6	7.2	6.2	7.0
III	7.4	6.8	4.1	5.6	1.8	9.7	5.2	6.6	8.1	4.8
IV	7.4	7.6	1.7	3.7	2.1	12.8	4.3	2.0	5.5	2.9
V	8.5	5.9	.3	11.3	2.7	14.3	4.9	1.9	7.9	7.2
VI	7.3	4.4	-	9.2	4.1	3.1	11.6	9.1	7.7	5.8
VII	11.7	2.9	-	13.2	5.1	13.8	10.2	4.9	12.7	10.3
VIII	-	-	-	7.7	8.2	-	15.6	7.1	11.9	5.1
Total I-V VI-	11.3	9.9	3.2	7.9	3.8	10.8	6.9	5.9	6.2	5.9
VIII	10.7	9.3	-	10.2	4.3	10.3	7.8	6.0	7.5	5.3
I-VIII	8.8	6.5	-	10.4	5.5	6.2	12.2	7.1	10.6	6.8

From the above tables, it appears that the rate of dropout is higher in schools located in the rural areas in the States of Punjab and Rajasthan both at the primary and middle stages of education. In Himachal Pradesh, no definite trend is discernible. For the year 1962-63, the rate of dropout in rural schools is higher both at the primary and middle stages of education than in urban schools, while the data for the year 1963-64 indicate just the reverse position. In Maharashtra and Delhi, the rate of dropout is higher in urban schools in both the years. This leads one to frame the hypothesis that in schools located in the rural areas and in the neighbouring cities of medium size, the rate of dropout is higher, whereas in large metropolitan cities, it is vice versa. However, the hypothesis relevant to the metropolitan cities becomes more obvious with reference to the age-group 11-14, especially in Delhi. Its tenability, although it requires further empirical evidence, seems to be based on the argument that there are more opportunities for the employment of children of the age-group 11-14 in the metropolitan cities than in rural and semi-urban areas. Accordingly, it may be interesting to test the hypothesis that the rate of dropout is higher in metropolitan and big cities, it is next higher in rural areas and is perhaps least in semi-urban areas. The cuases for this difference have also be to be identified in appropriate occupational and social contexts.

CHAPTER V

THE CAUSES OF WASTAGE

It was postulated in Chapter I that the causes of wastage relate to factors germane to the school, the pupil himself, his family and the community to which he belongs. In this Chapter, the causes in the school area have been examined by finding out the concomitant relationships of different independent factors hypothesised in Chapter I to the criterion variable, the phenomenon of dropout. The hypothesas related to the pupil area and the family area have been studied by differentiating dropouts from stayins through univariate analysis (the technique of Chi-square). The hypotheses pertaining to the community area could not, however, be tested due to the limitation of time.

I. Causes in Relation to School Variables

i) Standing of the schools and the rate of dropout

All the school variables cannot necessarily be manipulated by the school authorities. Some are definitely beyond their control, but have been studied here in order to have a proper diagnoses of the problem in its status fcrn. One such variable is the chronological age or the standing of a school in terms of years since its opening. Perhaps it may be true to say that the older a school, the lower will be its rate of dropout. To test this, rank correlations were calculated between the rate of dropout and the chronological age of schools. The results are presented in the table below:

TABLE 22

Rank correlations between the standing of the schools and the rate of dropout

State/Union Territory	Sample size	Ranke correlations 1962-63	1963-64
Maharashtra	26	-.111	-.081
Punjab	13	-.134	-.302
Rajasthan	14	-.383	-.391
Delhi	20	-.154	-.190
Himachal Pradesh	17	-.140	-.121
Total*	90	-.183	-.191

* The pooled values are obtained by taking means of the Z- transforms of the rank correlations of different States and converting them to r. This is done in the case of tables 22,25, 27 to 35.

It is observed that although the standing of schools and the rate of dropout are negatively related, yet none of the correlation is significant. Thus there does not appear to be much effect of chronological age of a school on the rate of it dropout.

ii) Classification of the schools by sex and the rate of dropout

The next variable examined in the school area pertains to the relationship between the type of school according to sex and the rate of dropout. This was studied for the States of Punjab and the Union Territory of Delhi only, because in Rajasthan and Himachal pradesh almost all schools included in the sample were co-educational, while in Maharashtra no schools exculsively meant for boys existed. The table below indicates State-wise rate of dropout in the schools classified by sex:

TABLE 23

Rate of dropout in the schools according to sex

State/Union Territory	Year	Rate of dropout in:		
		Boys' Schools	Girls' Schools	Co-educational Schools
Maharashtra	1962-63	-----	6.49	11.79
	1963-64	-----	6.44	11.49
Punjab	1962-63	5.70	2.67	4.94
	1963-64	7.74	2.73	6.48
Rajasthan	1962-63	----	----	5.67
	1963-64	----	----	5.75
Delhi	1962-63	8.65	6.55	4.67
	1963-64	10.59	8.84	4.77
Himachal Pradesh	1962-63	----	----	8.41
	1963-64	----	----	6.42

It is seen from the above table that in Punjab and Delhi, the rate of dropout is more in sampled schools for boys than in girls' and co-educational schools in both the years 1962-63 and 1963-64. It is further observed that in Punjab, the rate of dropout is next highest in co-educational schools and lowest in girls' schools, whereas in Delhi, it is next highest in girls' schools and lowest in co-educational schools. But statistically these differences were found to be insignificant.[1]

iii) Classification of the schools under different managements and the rate of dropout

The relationship between the schools classified by management and the rate of dropout in respect of sampled schools in the States of Rajasthan and Maharashtra and the Union Territory of Delhi was also studied. However, this

1. The values of Median test obtained were .68 and 2.68 at 2 df for 1962-63 and 1963-64 respectively.

variable could not be examined in Punjab and Himachal Pradesh where all the sampled schools were under government management and control. State-wise data regarding the rate of dropout in sampled schools, as classifed by management, is presented in the following table:

TABLE 24

Rate of dropout in the schools classified by management

State/Union Territory	Year	Rate of dropout in schools managed by: Govt.	District Council	Municipal Board/Corporation	Private Bodies
Maharashtra	1962-63	----	-----	11.34	4.19
	1963-64	----	-----	10.89	5.84
Punjab	1962-63	3.82	-----	-----	----
	1963-64	8.96	-----	-----	----
Rajasthan	1962-63	4.81	11.23	-----	3.52
	1963-64	4.33	11.06	-----	3.05
Delhi	1962-63	----	-----	6.41	8.92
	1963-64	----	-----	7.44	7.04
Himachal Pradesh	1962-63	8.41	-----	-----	----
	1963-64	6.42	-----	-----	----

It would appear from the above figures that in Maharashtra the rate of dropout in privately managed schools is lower than that in schools run by the Bombay Municipal Corporation. This does not, however, represent a true picture because the figures for privately managed schools are not reliable based as they are on a very small sample (out of 26 schools included in the sample, 24 were run by the Bombay Municipal Corporation and only 2 by the private bodies). It can be further seen that in Rajasthan, the schools under

the District Council have a higher rate of dropout compared to that in the schools managed by the State Government as well as the private bodies. Incidentally, it may be pointed out that all the sampled schools under different managements other than the District Council in Rajasthan were urban schools. It is, therefore, likely that the differences in the rate of dropout in the schools managed by the District Council and in those under other managements in that State may be due to their location in rural and urban areas respectively. In Delhi, the rate of dropout is higher in the schools run by the private bodies in 1962-63, while in 1963-64, it is more or less the same both in Municipal Corporation schools and private schools. However, the statistical analysis shows that the differences in the rate of dropout among schools run by different managements in these States are not significant.[2]

This, however, should not be construed as a generalisation that the rate of dropout cannot be related to the management of schools. It is suggested that the hypothesis that the rate of dropout is higher in private than in government and local bodies schools should be tested over a wider sample both in terms of the schools included and the years covered.

iv) Size of the school and the rate of dropout

The fourth variable studied in relation to the rate of dropout was the size of the school. Rank correlations worked out in this respect are given below:

---

2. The values of Median test obtained were 1.26 and 1.60 at 3 df for 1962-63 and 1963-64 respectively.

TABLE 25

Rankcorrelations between the size of the schools and the rate of dropout

State/Union Territory	Sample size	Rank Correlations 1962-63	Rank Correlations 1963-64
Maharashtra	26	.211	.231
Punjab	13	.403	.321
Rajasthan	14	-.282	-.204
Delhi	20	.182	.151
Himachal Pradesh	17	.371	.283
Total	90	.186	.155

The figures in the above table show that the rate of dropout is positively related to the size of school in all the States/Union Territories studied except Rajasthan. But since none of the correlation is significant, the data do not seem to support the hypothesis that the rate of dropout is related to the size of a school.

v) Shift system and the rate of dropout

The fifth variable examined in relation to the rate of dropout was the shift system in schools. This variable was studied for the Union Territory of Delhi only because in all other States/Union Territories except Maharashtra, the sampled schools were single-shift schools while in Maharashtra the schools included in the sample were being run in double-shift. The table below presents the data regarding the rate of dropout in the schools running in different shifts in Delhi:

TABLE 26

Shift system and the rate of dropout

Shift		Rate of dropout 1962-63	1963-64
Single	Day	5.5	5.3
Double	Morning	5.3	7.1
	Evening	8.8	10.1
Total (double-shift)		6.5	8.2

It is obvious from the above table that the rate of dropout in single-shift schools is 5.5 and 5.3 respectively in the years 1962-63 and 1963-64, while it is 6.5 and 8.2 in double-shift schools during the corresponding period. It can be further seen that the rate of dropout in double-shift schools is less in morning-shift than in evening-shift schools in both the years. These results need to be replicated through further studies by taking samples from different States/Union Territories in the country./ However, in view of our meagre resources to meet the requirements of rising enrolment, if it is not possible to dispense with the system of double-shift schools, such schools may be improved by providing necessary facilities, such as sufficient lighting arrangements for students attending the afternoon shift, etc.

/If these are confirmed, the obvious implications would be that opening of double-shift schools should be discouraged as far as possible.

vi) Teacher factor and the rate of dropout

The sixth variable examined in relation to the rate of dropout was the teacher factor. In this connection, the differences in the rate of dropout in different schools on account of age, qualifications, teaching experience, per capita income of the teachers and the distance of their residence from school were studied with the help of correlation co-efficient analysis.

The relationship between the social participation of the teachers and the rate of dropout could not, however, be studied due to the inadequacy of data.

The results are summarized in the following tables:

TABLE 27

Ranke correlations between the age of teachers and the rate od dropout

State/Union Territory	Sample size	Rank correlations 1962-63	1963-64
Maharashtra	26	-.111	-.076
Punjab	13	-.126	-.240
Rajasthan	14	-.190	-.134
Delhi	20	-.149	-.188
Himachal Pradesh	17	-.236	-.147
Total	90	-.157	-.144

TABLE 28

Rank correlations between the qualifications of teachers and the rate of dropout

State/Union Territory	Sample size	Rank correlations 1962-63	1963-64
Maharashtra	26	-.213	-.223
Punjab	13	-.301	-.322
Rajasthan	14	-.465	-.433
Delhi	20	-.311	-.241
Himachal Pradesh	17	-.282	-.287
Total	90	-.303*	-.281

* Significant at .01 level.

TABLE 29

Rank correlations between teaching experience of teachers and the rate of dropout

State/Union Territory	Sample size	Rank Correlations 1962-63	1963-64
Maharashtra	26	-.373	-.202
Punjab	13	-.089	-.081
Rajasthan	14	-.225	-.256
Delhi	20	-.080	-.247
Himachal Pradesh	17	-.209	-.370
Total	90	-.183	-.195

TABLE 30

Rank correlations between per capita income of teachers and the rate of dropout

State/Union Territory	Sample size	Rank Correlations 1962-63	1963-64
Maharashtra	26	-.591 **	-.583 **
Punjab	13	-.483	-.376
Rajasthan	14	-.222	-.267
Delhi	20	-.037	-.094
Himachal Pradesh	17	-.000	-.092
Total	90	-.311**	-.323**

** Significant at .01 level

TABLE 31

Rank correlations between the distance of teacher's residence from school and the rate of dropout

State/Union Territory	Sample size	Rank correlations 1962-63	1963-64
Maharashtra	26	.277	.235
Punjab	13	.388	.484
Rajasthan	14	.388	.484
Delhi	20	.195	.314
Himachal Pradesh	17	.093	.077
Total	90	.255*	.289**

* Significant at .05 level
** Significant at .01 level

It is seen from the above tables that although the values of rank correlations are not significant in any of the State/Union Territory except Maharashtra (table 30), yet when a macroscopic view of the data is obtained and correlation co-efficients are calculated by combining together schools from all States/Union Territories, the values obtained in some cases become significant which appear potentially indicative of the direction of relationship. Of course, the relationships are not very strong. It appears that there does not exist any significant relationship

between the age and teaching experience of teachers and the rate of dropout (tables 27 and 29). However, variables like qualifications of teachers, per capita income of teachers and the distance of teachers' residence from school do have some relationship with the rate of dropout, though the relationship is very week. In other words, the higher rate of dropout is associated with low per capita income and teachers coming from longer distance to school. The educational implications of the relationship between these variables and the rate of dropout are too obvious to be explained here.

vii) Teacher-pupil ratio and the rate of dropout

The next variable examined in relation to the rate of dropout was teacher-pupil ratio in a school. The results of the rank correlation calculated in this respect are presented in the table below:

TABLE 32

Rank correlations between teacher-pupil ratio and the rate of dropout

State/Union Territory	Sample size	Rank Correlations 1962-63	1963-64
Maharashtra	26	.143	.164
Punjab	13	.391	.252
Rajasthan	14	.222	.311
Delhi	20	.443	.443
Himachal Pradesh	17	.410	.434
Total	90	.264*	.270**

* Significant at .05 level
** Significant at .01 level

The above figures show that the values of correlation in all States/Union Territories are insignificant. The values, however, become significant when schools from all States/Union Territories are treated together. Thus, the pooled values indicate definite direction of relationship, although the relationship is not very strong. This suggests that to minimise the rate of dropout in schools, the number of pupils per teacher may be reduced, so that individual contact between the teacher and the taught is made possible. However, the norms of teacher-pupil ratio, or in other words the optimum size of a class per teacher, need to be established through further studies. Needless to say, the norms would vary with different age-grade levels.

viii) Physical facilities and the rate of dropout

The two variables relating to the physical facilities available in the schools which were examined in the context of the problem of school dropout were building and furniture. For rating school buildings, a 5-point scale was prepared and a number of teachers, supervisors and educational administrators were interviewed with a view to arriving at the criteria which would help in improving the reliability of rating. The data in respect of furniture were quantified in terms of per pupil cost. The rank correlations between both these variables and the rate of dropout were calculated for the years 1962-63 and 1963-64. The results are presented in the following tables:-

TABLE 33

Rank correlations between school building and the rate of dropout

State/Union Territory	Sample size	Rank correlations 1962-63	1963-64
Maharashtra	26	-.429*	-.431*
Punjab	13	-.342	-.238
Rajasthan	14	-.093	-.106
Delhi	20	.231	.541
Himachal Pradesh	17	.327	.103
Total	90	-.029	-.078

*Significant at .05 level.

TABLE 34

Rank correlations between furniture and the rate of dropout

State/Union Territory	Sample size	Rank correlations 1962-63	1963-64
Maharashtra	26	-.257	-.204
Punjab	13	-.059	-.040
Rajasthan	14	-.105	-.038
Delhi	--	---	---
Himachal Pradesh	17	.038	.020
Total	58	-.128	-.087

It is seen from table 33 that the values of correlation are not significant in any of the State/Union Territory except Maharashtra, in both the years 1962-63 and 1963-64. This means that there is hardly any relationship between the school building and the rate of dropout in a school.

As regards the relationship between the type of furniture and the rate of dropout, it can be observed from table 34 that none of the correlation is significant. Thus on the basis of the data collected for the present study, it can be stated that the furniture does not affect the rate of dropout in a school.

ix) Teaching aids and the rate of dropout

The relationship between the availability of teaching aids in the schools and the rate of dropout was also examined by working out rank correlations

between these two variables. Teaching aids were quantified in terms of their per pupil cost. The relevant data are tabulated below:

TABLE 35

Rank correlations between teaching aids and the rate of dropout

State/Union Territory	Sample size	Rank Correlations 1962-63	1963-64
Maharashtra	26	-.341	-.265
Punjab	13	-.280	-.270
Rajasthan	14	.361	.357
Delhi	--	----	----
Himachal Pradesh	17	-.202	-.176
Total	58	-.166	-.124

The figures given in the above table indicate that none of the correlation is significant. Thus there is hardly any relationship between the availability of teaching aids in a school and its rate of dropout.

x) Co-curricular activities and the rate of dropout

The relationship between the provision for co-curricular activites and the rate of dropout was also studied. Co-curricular activities were counted on a quantitative basis according to the number of activities organised in a school. The quality of performance or the time given to each activity were not taken into consideration. The pooled values of correlations obtained were -.310 for the year 1962-63 and -.361 for the year 1963-64. Both these values are significant for 42 and 43 degrees of freedom at .05 level. This suggests that the schools which organise a larger number of co-curricular activities have a lower rate of dropout. To minimize the rate of dropout, the educational administrators may, therefore, ensure that an adequate number of co-curricular activities are provided in primary and middle schools.

xi) Fees and funds charged and the rate of dropout

The last school variable studied in relation to the rate of dropout was fees and funds charged per pupil. Fees and funds charged from pupils of a specified grade do not generally vary in the schools under the same management and control, although the variations are significant in the case of schools under different managements and control. Privately managed schools are in many cases served by children belonging to higher socio-economic groups. Thus the rate of dropout in such schools becomes more a function of socio-economic variable than alone of the amount of fees and funds charged. Because of these difficulties and because of non-existence of inter-school variations in the rate of fees and funds under the same management, the hypothesis that the rate of dropout is positively related to the amount of fees and funds charged in a school could not be tested.

Also, the remaining hypotheses in the school area could not be verified because of non-availability of the reliable data.

II. Causes in Relation to Pupil Variables

i) Academic performance The first variable tested in the pupil area was the academic performance of dropouts and stayins. The table below presents examination results of both these groups:

TABLE 36

Examination results of dropouts and stayins

Score/ Pupils	Below 30	31-40	41-50	51-60	above 60	Total
Dropouts	126	103	159	117	87	592
Stayins	89	98	77	56	83	403
Total	215	201	236	173	170	995

The value of Chi-square (X^2) obtained on the basis of above figures was 22.23 which is significant. This indicates that the academic performance of stayins is better than that of dropouts.

ii) Attendance in school. The reasons for the poor academic performance of dropouts can be many. Perhaps one of them may be irregular attendance. Accordingly, it was examined whether or not any differences exist between dropouts and stayins in their attendance in school. It was found that differences in this regard were conspicuous. About 30 per cent dropouts and no stayins had less than 60 per cent attendance; less than 30 per cent dropouts and about 90 per cent stayins had more than 80 per cent attendance. Attendance especially less than 60 per cent, therefore, appears to be a signal for identifying the potential dropouts. It may be pointed out that the National Committee on Women's Education in its report (1959) also held that irregular attendance was one of the most important factors contributing to the phenomenon of wastage.[3]

iii) Age at the time of admission to school. The third factor on which differences were examined between dropouts and stayins was the age at which they were admitted to school. The data in this regard are tabulated below:

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3. Ministry of Education, India, Report of the National Committee on Women's Education, 1959, op. cit., p.75.

TABLE 37

Age of admission to grade I

Age(years)/ pupils	0-4	5-6	7-8	9-10	11-12	13 and above	Total
Dropouts	4	146	200	86	43	4	483
Stayins	15	214	106	15	5	0	355
Total	19	360	306	101	48	4	838

The value of Chi-square (x^2) obtained was 109.25 which is highly significant. This means that at the time of admission to grade I, most of the dropouts are over-aged, while a large marjority of stayins belong to the age prescribed by the Departments of Education. A similar conclusion was drawn in another study[4] which showed that students older than the median age are likely to dropout. The reasons of wastage among over-aged children are not far to seek. These may include: (i) economic usefulness of such children to the family and as a consequence, their premature withdrawal from school by their parents; (ii) difficulties experienced by these children to adjust with their peers who are very much younger to them in age; and (iii) unsuitability of syllabus to meet their psychological needs. All-out efforts, therefore, need to be made to enrol children of the prescribed age to minimise the heterogeneity in the age-composition of pupils. It may be pointed out that heterogeneity in the age-composition is also caused by grade repetition.

4. D.R. Gadgil and V.M. Dandekar, op.cit., p.149.

Similar results seem to emerge from the following table which presents data regarding the age at which pupils were admitted at the middle stage:

TABLE 38

Age of admission to grade VI

Age(years)/ pupils	9-10	11-12	13-14	15 and above	Total
Dropouts	10	56	51	15	132
Stayins	19	40	4	0	63
Total	29	96	55	15	195

The value of Chi-square (x^2) obtained was 41.40 which is highly significant. The implications of this finding for the middle stage are the same as for the primary stage, and therefore, need not be repeated here.

iv) Interest in education. The next variable on which differences were examined among dropouts and stayins was interest in education. This was studied by obtaining the data regarding the activities in which the preferred associates of dropouts and stayins engaged. The activities were got rated by some of the teachers and educationists on a 5-point scale in the diminishing order of their relevance to education - most relevant, relevant, neutral, irrelevant and undesirable. The activities which were considered as most relevant were: reading textbooks, stories, newspapers, doing home assignments, mathematical and other academic exercises,

reading magazines and other instructional materials. The activities which were considered relevant were: listening to radio programmes, teaching youngsters, reciting stories, taking part in co-curricular activities, making purchases, participating in literacy campaigns, collection of stamps, pictures, etc., engaging in craft-work and participating in sports and games. The activities which were considered neutral were: doing domestic work, rearing cattle, selling news-papers, carrying meals to farm, pigeon keeping, driving and other similar remunerative work. The activities which were considered as irrelevant included: gossiping, destructive pursuits, etc. The activities which were regarded as undesirable were: quarreling, gambling, loafing, truancy, deviancy, stealing, etc. Based on this classification, the activities of preferred classmates and friends of dropouts and stayins are tabulated below:

TABLE 39

Classification of activities of preferred associates of dropouts and stayins according to their relevance to education.

Pupils	Activities classified as:					
	Most Relevant	Relevant	Neutral	Irrele-vant	Undesi-rable	Total
Dropouts	258	808	566	43	8	1683
Stayins	254	732	147	6	2	1141
Total	512	1540	713	49	10	2824

The value of Chi-square (x^2) obtained was 70.12 which is highly significant. This indicates that stayins perceive their classmates and friends as engaging in educationally relevant activities more than what dropouts perceive their preferred associates. Perhaps these perceptions may be very close to reality. Thus self-identification of stayins with such persons as engage in educationally relevant activities indirectly reflects their greater interest in education than that of dropouts.

A similar inference can also be drawn from the data presented in the following table, classifying the activities of preferred family members of dropouts and stayins by their relevance to education.

TABLE 40

Classification of activities of preferred family members of dropouts and stayins according to their relevance to education

Pupils	Activities classified as:					
	Most Relevant	Relevant	Neutral	Irrele-vant	Undesi-rable	Total
Dropouts	85	457	1078	28	5	1633
Stayins	90	500	565	13	3	1171
Total	175	957	1643	41	8	

The value of Chi-square (x^2) obtained on the basis of above figures was 67.12 which is highly significant.

v) Pupil's perception of teacher as an authority

The fifth variable examined in the pupil area was the perception of dropouts and stayins of their teacher as an authority. This was done by ascertaining the perception of these two groups of their teachers' behaviour (kindness/ cruelty) and the competence in teaching. The relevant data are presented in the following tables:

TABLE 41

Teachers' behaviour as perceived by dropouts and stayins

Pupils	Teachers' Behaviour			Total
	Kind	Neutral	Cruel	
Dropouts	353	103	327	783
Stayins	276	93	110	479
Total	629	196	437	1262

TABLE 42

Teaching ability of teachers as perceived by dropouts and stayins

Pupils	Teaching Ability			Total
	Competent	Neutral	Incompetent	
Dropouts	574	51	160	785
Stayins	467	8	3	478
Total	1041	59	163	1263

The values of Chi-square (x^2) obtained were 36.82 and 124.15 respectively which are highly significant. These are indicative of the fact that proportionately a larger number of stayins than dropouts perceive their teachers as kind and competent.

vi) Motivation for learning from home. The next variable on which differences between dropouts and stayins were examined related to the motivation for learning from home. This was done by studying the perception of both these groups regarding the activities on which they were rewarded or punished by their parents. The activities were classified by their relevance to education according to the procedure described earlier with the only difference that the 5-point scale, used in tables 39 and 40 was converted into a 3-point scale, i.e. most relevant and activities were merged together and nomenclatured as educationally relevant activities; similarly irrelevant and undesirable activities were combined together and named as educationally irrelevant activities. The data in this regard are presented in the following four tables:

TABLE 43

Activities classified by their relevance to education on which the pupils perceived they were reqarded by their fathers

Pupils	Activities Classified as:			
	Educationally relevant	Neutral	Educationally irrelevant	Total
Dropouts	152	249	205	606
Stayins	283	82	70	435
Total	435	331	275	1041

TABLE 44

Activities classified by their relevance to education on which the pupils perceived they were rewarded by their mothers

Pupils	Activities Classified as:			
	Educationally relevant	Neutral	Educationally irrelevan	Total
Dropouts	65	268	277	610
Stayins	149	146	130	425
Total	214	414	407	1035

TABLE 45

Activities classified by their relevance to education on which the pupils perceived they were punished by their fathers

Pupils	Activities Classified as: Educationally relevant	Neutral	Educationally irrelevant	Total
Dropouts	108	338	153	599
Stayins	83	201	118	402
Total	191	539	271	1001

TABLE 46

Activities classified by their relevance to education on which the pupils perceived they were punished by their mothers

Pupils	Activities Classified as: Educationally relevant	Neutral	Educationally irrelevant	Total
Dropouts	57	352	198	607
Stayins	48	219	145	412
Total	105	571	343	1019

The values of Chi-square (x^2) obtained for tables 43-46 were 131.09, 86.32, 4.01 and 2.71 respectively. The former two values are highly significant, while the latter two are not significant. This means that more stayins than dropouts are rewarded by their parents on educationally relevant activities, but so far as punishments are concerned, there are no significant differences between the two groups.

vii) Motivation for learning from school Differences between dropouts and stayins were also studied in relation to motivation for learning from school. The procedure followed in this respect was the same as adopted

while studying motivation for learning from home.

The relevant data are given in the following table:

TABLE 47

Activities classified by their relevance to education on which the pupils perceived they were punished in the school

Pupils	Activities classified as: Educationally relevant	Neutral	Educationally irrelevant	Total
Dropouts	250	91	150	491
Stayins	182	34	89	305
Total	432	125	239	796

The value of Chi-square (x^2) obtained on the basis of above figures was 9.31 which is significant. This shows that more stayins than dropouts are punished on educationally relevant activities in the school.

That rewards increase the survival rate in the school is also supported by the monitorial positions or other leadership assignments held by the pupils. The data in this regard are given in the table below:

TABLE 48

Leadership assignments held by dropouts and stayins in the school

Pupils	Leadership Positions Held	Not held	Total
Dropouts	136	610	746
Stayins	220	247	467
Total	356	857	1213

The value of Chi-square (x^2) obtained was 115.39 which is highly significant. This means that more stayins than dropouts hold leadership assignments in the school. The implications of this finding for the school authorities are obvious. In order to reduce the rate of dropout, they should try to satisfy the pupils' need for approval by giving them appropriate leadership assignments in different fields.

viii) Pupil's perception of his parents' view of educatio

The last pupil variable on which differences between dropouts and stayins were examined was their perception of the need for their education as perceived by their parents. The relevant data may be seen in the table below:

TABLE 49

Pupils' perception of their fathers' view of education

Pupils	Fathers' view of Education			
	Important	Neutral	Unimportant	Total
Dropouts	599	114	44	747
Stayins	458	11	2	471
Total	1047	125	46	1218

TABLE 50

Pupils' perception of their mothers' view of education

Pupils	Mothers' view of Education			
	Important	Neutral	Unimportant	Total
Dropouts	553	145	62	760
Stayins	446	22	7	475
Total	999	167	69	1235

The values of Chi-square (x^2) obtained were 80.90 and 78.35 respectively which are highly significant. These indicate that according to the perception of dropouts and stayins, the parents of stayins consider education as more important than those of dropouts.

III. Causes in Relation to Family Variables

As mentioned in Chapter III (p.57), fathers of dropouts and stayins were interviewed to identify the causes of educational wastage in the family area. The results obtained on the basis of interview responses are discused below:

1) Size of the family One dimension on which differences between dropouts and stayins were studied in the family area was the size of the family. The relevant data are presented in the following table:

TABLE 51

Size of families of dropouts and stayins

Pupils	Size of Families					
	Up to 3	4-6	7-9	10-12	13-15	Total
Dropouts	39	360	313	71	7	790
Stayins	11	188	215	64	7	485
Total	50	548	528	135	14	1275

The value of Chi-square (x^2) obtained on the basis of above figures was 16.09 which is significant. This suggests that dropouts come from femilies having a small size. The data were further examined and it was found that more dropouts than stayins are the only children of their parents. Why do the only children drop out in a large number may be due to a number of factors which need to be examined through further research.

ii) Order of birth among siblings The second dimension on which differences between dropouts and stayins were examined was their order of birth among siblings. The relevant data are given in the table below:

TABLE 52

Order of birth of dropouts and stayins among their siblings

Pupils	Order of Birth				
	1st	2nd	3rd	4th & above	Total
Dropouts	224	213	178	175	790
Stayins	101	130	110	144	485
Total	325	343	288	319	1275

The value of Chi-square (x^2) obtained was 13.44 which is significant. If, however, the only child is excluded, the differences cease to be significant which means that the first child is a more frequent dropout. Should this be ascribed to the popular belief that he is made to drop out because he is to hold other junior children in the family and to help parents in domestic work? If this belief is accepted, the greater probability of dropping out of a pupil who is the only child can be explained by the fact that he being alone is the exclusive choice before his parents who are forced by their circumstances to put him to work. Apart from this, the other possibilities of more frequent dropping out of the first born or the only child may be psychological in character. Only further research can lead to conclusive results.

iii) Structure of the family The third dimension on which differences between dropouts and stayins were studied was the structure of their families. It was examined whether the families having both the parents alive had proportionately a smaller number of dropouts than those in which one or both parents had died. The data collected in this respect are tabulated below:

TABLE 53

Structure of families of dropouts and stayins

Pupils	Structure of Families		
	Both parents alive	One or both parents dead	Total
Dropouts	669	121	790
Stayins	463	19	482
Total	1132	140	1272

The value of Chi-square (x^2) obtained was 40.07 which is highly significant. This indicates that relatively more dropouts than stayins come from homes which have suffered the loss of one or both the parents. This finding is supported by the results obtained in the Satara Study.[5]

iv) Type of the family The fourth dimension on which differences between dropouts and stayins were examined was the type of the family. The relevant data are presented in the following table:

TABLE 54

Type of families of dropouts and stayins

Pupils	Type of Families		
	Kinship	Nuclear Families	Total
Dropouts	120	670	790
Stayins	140	345	485
Total	260	1015	1275

5. Ibid, p.157.

The value of Chi-square (x^2) obtained was 34.61 which is highly significant. This indicates that a larger proportion of dropouts than stayins come from nuclear families. In a way, it supports the results obtained for the variable 'size of the family', the nuclear families generally being of small size. Why do more dropouts than stayins come from nuclear families and/or small-sized families needs to be investigated through further research.

v) <u>The caste structure</u> The next variable on which differences between dropouts and stayins were examined was the caste structure of their families. The relevant data are tabulated below:

TABLE 55

Caste structure of families of dropouts and stayins

Pupils	Caste Structure					Total
	Brahmins	Vaish	Kshatri-yas	Backward Classes	Scheduled Castes/ Scheduled Tribes	
Dropouts	120	33	165	231	161	710
Stayins	121	65	151	70	51	458
Total	241	98	316	301	212	1168

The value of Chi-square (x^2) obtained was 103.66 which is highly significant. This indicates that the caste structure of the families to which pupils belong is very much related to the rate of survival/attrition in the school. Children from Brahmin, Kshatriya and Vaish families do not dropout in that proportion as those from Backward Classes and Scheduled Castes/Scheduled Tribes.

A similar conclusion was also drawn in the Satara Study which showed that parents in the caste groups constituting Brahmins, Lingayat, Vani, tolerate more repetition of grades by their children than those in the caste group Mahar, Chambhar, Mang, Romoshi, Kaikadi and others, before they withdraw their children from school.[6] The higher incidence of wastage among children of lower caste groups may perhaps be ascribed to their parents' lower economic and educational status.

vi) The occupational pattern The sixth dimension on which differences were examined between dropouts and stayins was the occupational pattern of their parents. The caste structure and the occupational pattern are perhaps interrelated as the castes are traditionally functional in this country. Nevertheless, this relationship is getting weaker gradually. To examine the occupational differences among the parents of dropouts and stayins, the relevant data were collected. The results based on these data are tabulated below:

TABLE 56

Occupational pattern of the parents of dropouts and stayins

Pupils	Occupational Pattern					
	Agriculture	Labour and other manual employment	White collored jobs	Business	Artisans and Mechanics	Total
Dropouts	203	190	204	82	66	745
Stayins	112	66	187	88	26	479
Total	315	256	391	170	92	1224

6. Ibid, p.151

The value of Chi-square (x2) obtained was 49.29 which is highly significant and is thus indicative of the relationship between parental occupation and the phenomenon of dropping out from school. This relationship becomes more visible in the following table in which the data have been transformed into percentages.

TABLE 57

Occupational pattern of the parents of dropouts and stayins given on percentage basis

Pupils	Agriculture	Labour and other manual employment	Business	White collored jobs	Artisans and Mechanics
Dropouts	27.25	25.50	11.01	27.38	8.86
Stayins	23.38	13.78	18.37	39.04	5.43

The above figures show that the people engaged in business and white collared jobs are more interested in educating their children than those who are engaged in occupations like agriculture, labour, artisanship, etc. It may be pointed out that a similar conclusion was also drawn in the Satara Study.[7]

vii) Educational status of the family The seventh variable examined in the family area related to the educational status of the families of dropouts and stayins. Although the higher educational status and the higher income appear to be inter-related and thus income becomes an intervening variable, yet it may be interesting to study differences between the educational status of parents and families

7. Ibid, p.154

of dropouts and stayins separately. The relevant data are presented in the following tables:

TABLE 58

Educational status of parents of dropouts and stayins

Pupils	Educational status in terms of grades passed				
	upto 2	3-5	6-8	9 and above	Total
Dropouts	645	96	34	15	790
Stayins	250	101	68	66	485
Total	895	197	102	81	1275

TABLE 59

Educational status of family members of dropouts and stayins

Pupils	Educational status in terms of grades passed				
	upto 2	3-5	6-8	9 and above	Total
Dropouts	574	173	42	1	790
Stayins	252	139	81	13	485
Total	826	312	123	14	1275

The values of Chi-square (χ^2) obtained were 154.21 and 86.02 respectively which are highly significant. These values are suggestive of a negative relationship between the educational status of parents and families of school children and the rate of dropout. This finding is supported by the results obtained in another study which showed that the presence of a large number of illiterate members in the family is positively related to the phenomenon of wastage in primary education.[8]

8. D.V. Chickermane, "Influence of Home Circumstances on Wastage in Primary Education," op. cit., p.139.

viii) Annual income of the family Is the relationship between the educational status of the family and the rate of dropout spurious in view of a possible relationship between the educational and economic status of the people? To test this, it was considered necessary to examine whether or not dropouts and stayins differ with regard to the annual income of their families. The data collected in this regard are tabulated below:-

TABLE 60

Annual income of families of dropouts and stayins

Pupils	Annual income of Families (Rs.) upto 500	501 1000	1001 1500	1501 2000	2001 2500	2501 3000	3001 3500	3501 4000	4001 4500	4501 5000	5001 and above	Total
Dropouts	56	162	165	139	87	63	30	21	14	18	37	792
Stayins	25	60	78	77	60	36	20	23	18	15	65	477
Total	81	222	243	216	147	99	50	44	32	33	102	1269

The value of Chi-square (χ^2) obtained was 54.87 which is highly significant. This shows that the annual income of stayins' families is higher than that of the families of dropouts. Thus like educational status of the family and caste structure and occupational pattern of parents, the annual income of the family also plays an important part in influencing the rate of dropout in primary and middle schools. Chickermane, on the other hand, found that the relationship between the income of parents and the phenomenon of wastage in primary education was not significant. Through statistical analysis, he tried to show that "even rich children leave school before completing the fourth grade in four years or take

longer time, while poor students who have joined school do not discontinue mainly for poverty."[9] The validity of these conflicting results needs to be tested through further studies.

ix) Age of parents The next variable on which differences were studied between dropouts and stayins was the age of their parents. The data in this respect are presented in the table below:

TABLE 61

Age of parents of dropouts and stayins

Pupils	Age of Parents (Years)					
	Below 30	30-40	40-50	50-60	Above 60	Total
Dropouts	42	327	306	74	18	767
Stayins	54	224	162	34	9	483
Total	96	551	468	108	27	1250

The value of Chi-square (χ^2) obtained was 19.25 which is significant. This indicates that, by and large, the parents of stayins are younger in age than those of dropouts. Spelling out the implications of this finding, it may be stated that perhaps children of older parents are prematurely withdrawn from school because their parents are too old to look after them well and also they want to employ them in domestic work or in outside labour to earn for the family.

9. Ibid, pp.138-139.

x) Parents' view of child's educational performance

Another factor examined in the family area was the opinions expressed by the parents of dropouts and stayins with regard to the educational performance of their children in comparison to other children of their age-group. The relevant data are tabulated below:

TABLE 62

Educational performance of dropouts and stayins as perceived by their parents

Parents of	Parents' view of Educational Performance: Superior	Average	Inferior	Total
Dropouts	667	97	26	790
Stayins	457	19	9	485
Total	1124	116	35	1275

The value of Chi-square (χ^2) obtained was 28.39 which is highly significant. This shows that the parents of stayins are more satisfied with the academic performance of their wards than those of dropouts. Satisfaction with a child's educational achievement perhaps serves as an incentive for the parents to keep him in school and it also motivates the child himself to put his best in his studies.

xi) Parents' view of physical facilities in school

The next variable on which differences between dropouts and stayins were studied was the opinion expressed by their parents in regard to the availability of physical facilities in the school. The data in this respect are presented in the following table:

TABLE 63

Availability of physical facilities in the schools as perceived by parents of dropouts and stayins

Parents of	Degree of Satisfaction: Satisfied	Neutral	Dissatisfied	Total
Dropouts	700	78	11	789
Stayins	461	19	3	483
Total	1161	97	14	1272

The value of Chi-square (X^2) obtained was 16.95 which is significant. This means that the parents of dropouts express, proportionately in larger number, dissatisfaction with the provision of physical facilities in the schools. Whether this dissatisfaction is antecedent to or a consequence of the phenomenon of dropping out appears to be controversial. Perhaps the very act of dropping out is a critical incident that colours the perception and hence dissatisfaction may be a consequence. Also, the possibility of dissatisfaction being antecedent to dropping out cannot be ruled out. This can be empirically tested through further research and if it is found that the parents of potential dropouts and stayins differ, the school authorities can approach the dissatisfied parents and work with them.

xii) Parents' view of social influence in school

Another dimension on which differences between dropouts and stayins were examined was the opinions expressed by their parents in regard to the social influence in the school. The social influence was defined to mean the relationships between teacher-teacher,

pupil-pupil and pupil-teacher. The data collected in this regard are tabulated below:

TABLE 64

Social influence in the schools as perceived by parents of dropouts and stayins

Parents of	Degree of Satisfaction			
	Satisfied	Neutral	Dissatisfied	Total
Dropouts	675	93	22	790
Stayins	423	47	13	483
Total	1098	140	35	1273

The value of Chi-square (χ^2) obtained was 1.25 which is not significant. This indicates that the parents of dropouts and stayins do not significantly differ so far as their perception of the social influence in the schools is concerned.

xiii) Parents' perception of the value of education

Apart from the foregoing, differences between the perception of dropouts' and stayins' parents of the significance of education were also studied. The relevant data are presented in the following table:

TABLE 65

Value of education as perceived by parents of dropouts and stayins

Parents of	Parents' perception of value of Education			
	Important	Neutral	Unimportant	Total
Dropouts	670	80	24	774
Stayins	473	6	1	480
Total	1143	86	25	1254

The value of Chi-square (X^2) obtained was 52.77 which is highly significant. This indicates that the parents of stayins attach greater importance to education than those of dropouts. The attitude of the parents towards education perhaps depends, to a very large extent, on their perception of the value of education. In a study conducted by Chickermane, the indifference of the parents towards education was found to be one of the most important factors contributing to the phenomenon of wastage in primary education.[10] Thus to remove parental indifference towards education, their perception of the value of education needs to be raised through well-conceived and well-organised adult literacy programmes.

xiv) Parents' feeling about the cost of education

The last dimension on which differences between dropouts and stayins were studied was the reactions of their parents to the cost of education. The data in this respect are tabulated below :

TABLE 66

Burden of cost of education as perceived by parents of dropouts and stayins

Parents of	Parents' perception of cost of Education			
	High	Average	Low	Total
Dropouts	271	407	97	1755
Stayins	129	315	33	477
Total	400	722	130	1252

10. Ibid, pp. 138-139.

The value of Chi-square (x^2) obtained was 24.02 which is highly significant. It is indicative of the fact that a larger number of the parents of dropouts than those of stayins perceive the burden of education heavier. It is, however, difficult to say as to what degree the reactions of parents to the cost of education are influenced by their economic status and/or by the value they attach to education.

The value of Chi-square (x^2) for all these variables were also worked out for the States of Maharashtra, Punjab and Rajasthan and the Union Territories of Delhi and Himachal Pradesh, separately. State-wise results may be seen in Appendix IX. To find out whether or not there was any significant difference between the averages for dropouts and stayins, 't' test was applied to the quantified data. It was found that the 't' values reinforced the results obtained through univariate analysis (the technique of Chi-square) presented above. The 't' values are given in Appendix X. Furthermore, these results were also supported by multivariate analysis, i.e. the discriminant function, the value of which was 6.6320 which is highly significant. The techniqus of discriminant fu-ction has been further to used in the next Chapter to determine the relative importance of causes of wastage.

IV. Causes Given by Dropouts and Their Parents

In response to Q.5 of the interview schedule for dropouts, children were asked to give the causes which led to their early school leaving. Similarly, Q.17 of the

interview schedule for dropouts' parents required them to explain the causes which led to the premature withdrawal of their children from school. The frequency of different causes was calculated sex-wise (male and female), stage-wise (primary and middle) and locality-wise (rural and urban), separately. The results obtained are discussed below:

1. Causes Given by Dropouts

i) Rural Primary schools An examination of the data shows that in the case of boys studying in rural primary schools, the most important cause of dropping out is the 'economic backwardness of the family'. Out of every 100 boys dropping out from such schools, 26 are reported to have left because of this factor alone. In the case of girls, however, this cause is relatively less important (20.5 per cent).

Another cause given by boys related to the help rendered by them to their parents in agriculture and other economic activities (14.6 per cent). In a few cases (2.1 per cent), it was also stated that they had to leave school to take up outside employment to supplement the family income. It would appear that this cause also reflects the poor economic condition of the family. One may argue that a pupil of the primary stage is hardly capable of supporting the economic activities of the family. But there are reasons to believe that the parents may need the assistance of their wards in small agricultural operations. Besides, a fairly large number of children of higher age than the

prescribed one, especially in rural areas, are admitted to school and are, therefore, likely to be withdrawn from school prematuraly because of their economic usefulness to the family.

'Poor in Studies' is another cause of dropping out given by the pupils. Academic backwardness may be due to lack of interest in education, excessive involvement in domestic work, lack of books and stationery and other allied factors. This cause is more or less equally operative in the case of boys (13.8 per cent) as well as girls (13.6 per cent).

Still another cause of dropping out as mentioned by the pupils is 'domestic work'. 13.2 per cent boys are reported to have left school because of this reason, while the corresponding figure for girls is 34.4 per cent. That this cause is relatively more important for girls than for boys is understandable. Domestic work includes looking after youngsters in addition to doing household work, etc. for which girls are perhaps more useful than boys. Other causes like parental indifference towards education (10.3 per cent), illness of pupils (9.9 per cent) and distance between the school and pupils' homes (10.2 per cent) contribute almost equally to the phenomenon of dropping out in the case of boys. In the case of girls, parental indifference towards education (17.4 per cent) and illness of pupils (12.3 per cent) are relatively more important.

ii) Rural middle schools The causes of dropping out based on the interview responses of boys studying

in rural middle schools are practically the same as for those studying in rural primary schools. More than 50 per cent boys at the middle stage drop out because of poor economic condition of their parents and their engagement in economic activities, whereas the corresponding figure for the primary stage is 43 per cent. Needless to say, boys at the middle stage become economically more useful to the family. However, in the case of girl students of middle stage, economic factor is not so important, the percentage of dropout attributable to this factor being only 10. Domestic work, marriage or betrothal and parental indifference towards education are relatively more important in the case of girls than in the case of boys. These three factors combined together account for 55 per cent of the total wastage among girls. Another cause 'poor in studies' has almost the same importance both for boys and girls (22 per cent and 20 per cent respectively).

iii) Urban primary schools The causes identified on the basis of interview responses of the pupils studying in urban primary schools are practivally the same as for those studying in rural primary schools except that 'migration to native places' is an additional cause of dropping out for the pupils studying in urban primary schools. The phenomenon of migration is important, particularly in the schools located in Bombay where about 15 per cent of the total dropouts are reported to have left school because of this reason.

Although this cause has not been further probed into, yet it does not appear strange in the case of industrial cities like Bombay where labour is usually mobile and drawn from the neighbouring rural areas. The parents often go back to their native places where they have ties of land, etc. Their young children accompany them and later on as a result of their long absence from school, their names are removed from the rolls and they never seek re-admission.

iv) Urban middle schools An examination of the data shows that a large majority of boys (39.2 per cent) studying in urban middle schools dropout because of their being 'poor in studies'. The corresponding figure for boys studying in rural middle schools is 22.6 per cent. Furthermore, it appears from the data that this factor is of greater importance in big cities like Delhi and Bombay. Perhaps the temptations of the city-life compel the pupils to go astray. There may be scores of other reasons also. Only further research can throw light on the reasons responsible for their academic backwardness.

2. Causes Given by Parents of Dropouts

Although there is a fair agreement between the causes verbalized by the parents of dropouts and those given by dropouts themselves, yet some definite trends are noticeable. The analysis of parents' responses reveal that causes like 'economic backwardness of the family'(28 per cent for primary and 35 per cent for middle) and 'poor in studies' (16 per cent for primary and 25 per cent for middle) are the two most important causes, while 'parental indifference towards education' (4 per cent for primary and 6 per cent for middle) is the least important cause. In other words,

the parents have, on the one hand, expressed their inability to afford the cost of educating their children while on the other, they have shifted the blame for premature withdrawal on pupils' academic backwardness.

V. Causes Given by Teachers

In addition to dropouts and their parents, teachers were also requested to express their opinion about the causes of school dropout. One of the causes they gave was the physical ailment of the pupils. They pointed out that any of the following diseases contracted by the pupils generally led to their dropping out from school. The diseases have been arranged in a descending order, according to their causal significance:

1. Typhoid, small pox and other ailments which require a long time to cure
2. Poor eye-sight, general debility, and
3. Intestiral disorders - dysentry.

The second cause ofdropping out as mentioned by the teachers was mental retardation. The following are the signals often used by the teachers for identifying the mentally retarded pupils:*

1. Low grasping power i.e. low intelligence
2. Poor academic performance
3. Lack of general responsiveness, and
4. Lack of interest in studies.

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* It may be mentioned here that primary schools in India almost do not make use of any standredized intelligence tests.

The third cause related to the academic backwardness of the pupils especially in the following subjects, given in the diminishing order of their causal significance.

1. Mathematics
2. English
3. Hindi
4. Social Studies and
5. General Knowledge

The fourth cause pertained to the social maladjustment of pupils due to caste inferiority, acute poverty of parents, undesirable social influence, and physical stature much above or below the average of the class.

The fifth cause given by the teachers related to the emotional problems of the pupils. In this connection, the following behaviours were identified as indicative of maladjustment:

1. Rude behaviour towards teachers,
2. Truancy
3. Extreme shyness,
4. Extreme aggressiveness and
5. Extreme fear and insecurity

The sixth cause related to the home factors of the pupils like poverty, family disorder, indifference of parents towards education and early marriage.

The seventh cause related to the occupational pattern of the community, its educational status and its income level.

Last but not the least, the teachers felt that the school factors like heavy syllabus, lack of co-curricular activities and the unsympathetic behaviour of the teachers towards the pupils also influenced the

rate of dropout.

To sum up, the teachers expressed the belief that the main factors responsible for the phenomenon of dropping out were the poverty of the parents and their indifference towards education.

All these causes given by dropouts, their parents and teachers were further utilized for framing a comprehensive opinionnaire which was used to assess the relative importance of different causes of school dropout as perceived by parents, teachers and educationists. The results of 'opinion poll approach' are discussed in the next Chapter.

CHAPTER VI

RELATIVE IMPORTANCE OF CAUSES OF WASTAGE

In this Chapter, an attempt is made to determine the relative importance of causes of wastage at the primary and middle stages of education by two methods: (i) the discriminant function analysis, and (ii) the opinion poll approach. The results obtained through these two methods are discussed below.

I. Discriminant Function Analysis

The hypotheses framed in Chapter I in respect of variables related to the pupil area and the family area were tested in the preceding Chapter. It was found that dropouts and stayins differed from one another on 21 variables. (8 in the pupil area and 13 in the family area). These variables are being further examined here with a view to finding out their relative contribution to the phenomenon of dropping out, by means of discriminant function analysis.

The procedure for computing discriminant function (Δ), 'F' values to test the significance of Δ, weights and percentage contributions for each of the variables are detailed in Cahpter III. Given below are the three tables showing weights, percentage contributions of each of the 21 variables to the numerical values of Δ and the ranks established on the basis of percentage contributions for elementary education and primary and middle stages of education respectively:

TABLE 67

Rank order based on percentage contributions of 21 variables to the value of discriminant function - elementary education

Variable	Weight	Percentage contribution to the numerical value of Δ	Rank
1	2	3	4
Attendance in school	0.4445	41.8451	1
Academic performance	0.4647	10.8503	2
Parents' view of child's educational performance	0.5322	8.2314	3
Motivation for learning from home	0.2312	8.1965	4
Age at the time of admission to school	0.0805	5.2812	5
Interest in education	0.5933	4.5664	6
Pupil's perception of his parents' view of education	1.3945	3.7980	7
Caste	0.5843	3.4821	8
Motivation for learning from school	0.3182	3.4798	9
Type of family	1.1050	2.3239	10
Structure of family	-.0214	1.9462	11
Age of parents	1.1376	1.5287	12
Annual income of family	0.6153	1.3592	13
Pupil's perceiption of teacher as an authority	0.4597	1.3539	14
Order of birth among siblings	0.1097	1.0930	15
Parents' view of physical facilities in school	-.0165	.7914	16
Parents' feeling about the cost of education	-.2219	.7086	17
Occupation of parents	.9003	.4887	18

1	2	3	4
Parents' perception of the value of education	-.5322	.4949	19
Educational status of family	-.4921	.2997	20
Size of family	.1663	.0623	21

Value of Δ = 6.6320

Value of 'F' = 93.40**

**Significant at .01 level

TABLE 68

Rank order based on percentage contributions of 21 variables to the value of discriminant function - primary stage

Variable	Weight	Percentage contribution to the numerical value of Δ	Rank
1	2	3	4
Attendance in school	.1220	49.7240	1
Parents' view of child's educational performance	.3935	9.3992	2
Motivation for learning from home	.4075	7.6208	3
Academic performance	.2424	7.1535	4
Caste	.1011	5.0972	5
Age at the time of admission to school	.5043	4.5371	6
Motivation for learning from school	1.4257	3.9292	7
Pupil's perception of his parents' view of education	.3825	3.7493	8
Pupil's perception of teacher as an authority	.3977	2.0361	9
Type of family	.2719	1.9194	10
Parents' view of physical facilities in schools	-.3053	1.7504	11

1	2	3	4
Interest in education	.8049	1.3549	12
Annual income of family	.0164	1.1567	13
Parents' feeling about the cost of education	.0861	.8424	14
Size of family	.1201	.8131	15
Occupation of parents	.0252	.6582	16
Structure of family	-.4496	.5794	17
Educational status of family	.9473	.5212	18
Parents' perception of the value of education	-.6037	.3500	19
Age of parents	-.6827	.2776	20
Order of birth among siblings	.1351	.0402	21

Value of Δ = 6.0045

Value of 'F' = 64.67**

**Significant at .01 level

TABLE 69

Rank order based on percentage contributions of 21 variables to the value of discriminant function - middle stage.

Variable	Weight	Percentage contribution to the numerical value of Δ	Rank
1	2	3	4
Attendance in school	.7754	32.7542	1
Academic performance	.3191	22.6480	2
Interest in education	.6407	8.9425	3
Motivation for learning from home	.2086	6.8260	4
Age at the time of admission to school	-.1177	6.5500	5

1	2	3	4
Parents' view of child's educational performance	.6798	5.9720	6
Age of parents	1.4103	4.2966	7
Motivation for learning from school	1.0891	3.1305	8
Pupil's perception of his parents' view of education	.1416	2.2770	9
Educational status of family	.9052	1.5472	10
Pupil's perception of teacher as an authority	-.0439	1.4833	11
Parents' perception of the value of education	.6105	1.4302	12
Structure of family	.7297	1.3634	13
Caste	1.0734	1.1887	14
Annual income of family	.0671	1.1500	15
Parents' view of physical facilities in school	.0920	1.0750	16
Type of family	-.2162	.9980	17
Order of birth among siblings	.6740	.5582	18
Parents' feeling about the cost of education	-.6443	.4978	19
Occupation of parents	-.7855	.2366	20
Size of family	.1208	.1608	21

Value of Δ = 7.6313

Value of 'F' = 23.20 **

**Significant at .01 level.

In the scheme of maximally separating the two groups, i.e. dropouts and stayins in elementary education (table 67), attendance in school, academic performance, parents' view of child's educational performance, motivation for learning from home, age at the time of admission to school and interest in education are the first six variables in order of importance. It is significant to note that contrary to popular belief, some of the seemingly important variables like annual income of the family, occupation of parents, parents' perception of the value of education and educational status of the family have obtained relatively low ranks in the present study.

Table 68 shows that the first six factors in order of importance at the primary stage are: attendance in school, parents' view of child's educational performance, motivation for learning from home, academic performance, caste and age at the time of admission to school. At the middle stage (table 69) the corresponding order of the first six factors is: attendance in school, academic performance, interest in education, motivation for learning from home, age at the time of admission to school and parents' view of child's educational performance. Thus, it is evident that among the first six variables, five are common to both the primary as well as middle stages of education, although the ranks obtained by some of these variables are not exactly the same. At the primary stage, for example, caste is among the first six variables, while at the middle stage, it has received the fourteenth rank. This means that the pupils coming from low caste

families are likely to drop out at the primary stage, while the chances of such pupils dropping out at the middle stage are not so pronounced.

It is interesting to note that at the primary stage, the relative contribution of annual income of the family in discriminating dropouts from stayins is much higher than that of educational status of the family and parents' perception of the value of education, while at the middle stage, the position is just the reverse. The reasons for such differencesare not far to seek. Only those parents who have better educational status and who attach higher significance to the value of education would continue to send their children to school beyond the primary stage, whatever their socio-economic status.

Pupil's interest in education as a factor is relatively more powerful in discriminating dropouts from stayins at the middle stage than at the primary stage. Children at the primary stage are perhaps too young to show any interest in education as such and they are generally sent to school by the parents because of the operation of compulsory education laws, or because they are considered to be nuisance at home. At the middle stage, however, children come to their own because of growth factor. They gain greater consciousness about the value of education and get interested in it.

From the foregoing analysis, it would appear that the variables which are common to elementary education and primary and middle stages of education and which

contribute maximally in separating dropouts from stayins are: attendance in school, academic performance, parents' view of child's educational performance, motivation for learning from home, age at the time of admission to school and interest in education. Implications of these variables for the educational authorities are discussed in the succeeding paragraphs.

Educational Implications

The contribution of the variable "attendance in school" is the highest in separating dropouts from stayins which implies that those children who show signs of irregularity in attendance or absent themselves from school for long constitute definite cases of potential dropouts, whereas those who attend the school regularly are likely to continue their studies.

Irregularity in attendance is, however, a symptom rather than a cause of dropping out from school. There may not be one single cause but a combination, nay, combinations of causes operating in each individual case. Conglomeration of causes may include pupil's emotional difficulties, lack of interest in education, ill health, bad company, dissatisfaction with school, home circumstances, etc., which need to be investigated through depth studies based on case study approach.

The implications of this finding are obvious for the school authorities. As soon as they discover a child becoming irregular in attendance, they should take it as a signal of the coming events. There are

two possible alternatives before them: (i) to enforce compulsory educational laws vigorously, or (ii) to closely examine each case so as to identify the causes of irregular attendance and take timely steps to retain him in school. The former is a negative approach and may not be, therefore, very helpful. The Baroda Experiment in Compulsory Education could not achieve encouraging results because "excessive reliance on the panel aspects of the compulsory law is a poor instrument for developing elementary education".[1] The latter is a positive approach and can prove extremely useful. However, it will perhaps be rewarding to adopt both the approaches of persuasion as well as compulsion so as to achieve maximum results, depending upon the situation in each individual case.

The next variable in order of importance at the middle stage and elementary stage of education is academic performance which means that stayins' performance in subject-matter is superior to that of dropouts. Ranked as it does immediately after 'attendance in school', it is significant in as much as it indicates a relationship to regularity in attendance. It may be reasonably expected that those children who attend the school regularly are, by and large, better achievers than those who are irregular in attendance.

The progressive deterioration in academic achievement is a symptom for potential cases of stagnation. Grade repetition gives a set back to children. It also results in heterogeneity in their age-composition, which

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1. DESAI, D.M. Two case studies, Baroda and Kerala, the Indian Year Book of Education, Second Year Book, Elementary Education, New Delhi, N.C.E.R.T., 1964. p.90

creates adjustment difficulties for them in the class. Both these factors lead to their early school leaving. Again, it is perhaps equally true that repeated failures in examination compel the financially handicapped parents to withdraw their wards from school prematurely, even though they may be conscious of the significance of education.

To retain children in school till they complete the elementary stage of education, meticulous care of academically backward pupils needs to be taken by the school authorities. They should try to understand the causes responsible for their poor performance in studies which may include: emotional difficulties, excessive involvement in domestic work, lack of textbooks and stationery, indifferent teaching, lack of interest in education, physical illness, etc. Obviously, factors related to the school area can be effectively tackled by the educational authorities through better instructional methods, extra coaching of weak students after school hours, etc. Regular medical examination and follow-up of each individual child and frequent contacts between teachers and parents are also very necessary. Needless to say, as a pre-requisite to the success of these measures, the school authorities need to maintain a cumulative record card for each individual pupil.

"Parents' view of child's educational performance" means that parents of dropouts are not satisfied with the academic achievement of their wards, while parents of stayins feel that their children's educational achievement is up to the mark. It goes without saying that because of

interaction between the child and his parents, the child's achievement in school is influenced by the view his parents hold about him and parents' view of the child's educational achievement is also influenced by the child's progress in different school subjects. From the point of view of social stratification, it may be observed that parents belonging to the lower socio-economic strata of society are perhaps ignorant about their children's academic achievement; parents from the upper strata are indifferent because of their other pre-occupations, while parents belonging to middle class families are over-conscious of the achievement of their children in school. The validity of this observation, however, needs to be tested through another study.

As the bulk of student population in India at the elementary stage of education comes from the lower socio-economic strata of society (a large majority of children included in the present study also belonged to such strata), the importance of such strata in the context of educational wastage at the elementary stage is much more as compared to other socio-economic groups.

In order to minimise wastage and stagnation resulting from this variable, the educational authorities may help, through counselling, the financially handicapped and culturally backward parents to view their children's educational performance in school realistically.

The variable 'motivation for learning from home' implies that the home environment of stayins is much more congenial to motivate them for learning as compared to that of dropouts. The congenial home environment generally includes: higher educational status of the family, provision of a separate room for study at home, encouragement to the child on his achievement in school, giving sufficient free time for study to the child at home. It would, however, appear from tables 67-69 that the contribution of the factor 'educational status of the family' is relatively less important in discriminating dropouts from stayins. This means that it is not necessary that the educational status of stayins' families may be very much higher than that of dropouts' families. This inference, however, needs to be viewed with certain reservations because of the fact that the sample taken for the present study included a large number of families from rural areas and slum areas especially in the two metropolitan cities of Delhi and Bombay, and those families had no traditions of education. Be this as it may, the provision for a separate room for study at home is linked up with the annual income of the family because only well-to-do parents can provide such a facility at home. But again, the present study reveals that 'income of the family' is relatively less important in discriminating dropouts from stayins. Thus, the remaining two home factors through which children can derive motivation for learning are encouragement given to them by parents on their scholastic achievement and provision of sufficient free time to them to study at home.

The educational authorities, through constant touch with parents, can change the attitude of parents towards education and orient them to the need and importance of motivating their wards for learning.

'Age at the time of admission to school' is another variable which is relatively more important than other factors in discriminating dropouts from stayins. This implies that most of the dropouts are older than the normal age while a large majority of stayins belong to the age-group prescribed by the State Departments of Education at the time of their first entry into a primary school. Obviously, this leads to heterogeneity in the age-composition of pupils which is also partly due to stagnation in different grades. As stated earlier, Dandekar in the Satara Study[2] found that heterogeneity in the age-composition of pupils was one of the most important underlying causes of wastage in primary education.

The educational authorities can tackle this problem by restricting fresh admissions to grade I to the first 2 to 3 months of the academic session. However, for quite some time, older children will continue to seek admission in grade I from backward communities who have so far not shown any school mindedness and to deny admission to such children would hamper the realization of the goal of universal education. If a census of children of school-going age is taken by the teachers in every village every year and on the basis of those figures if conscious

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2. D.R. Gadgil and V.M. Dandekar, op. cit., p.149.

efforts are made through contacting parents so as to enrol children of the prescribed admission age to grade I, the number of over-aged children seeking admission will be greatly reduced in the next few years.

'Interest in Education' is another variable which discriminates dropouts from stayins, more especially at the middle stage. This implies that stayins are more interested in studies than dropouts. Interest and attitude are interrelated. If a person's attitude is favourable to a particular phenomenon, he naturally gets interested in it. Conversely, it is also true that a person who is interested in something develops a favourable attitude towards it. The interest of a child in studies is influenced by his ego-ideal. If his ego is satisfied through better achievement in school subjects, it is but natural that he would develop a favourable attitude towards education and also get interested in it. What is required for the school authorities in such a situation is to make every child interested in education by providing him with the right type of environment in school and by counselling him as well as his parents. Needless to say, congenial school environment for learning would include improved instructional methods, provision of a variety of co-curricular activities to suit the varying interests of children, sympathetic attitude on the part of teachers, etc.

II. Opinion Poll Approach

As stated earlier, another method used to determine

the relative importance of different causes of educational wastage was opinion poll approach. This involved eliciting the opinions of parents, teachers and educationists on the causes of school dropout at primary and middle stages of education, separately. The rationale of this method and other relevant details about the opinionnaire, the quantification of the responses received, computation of averaged ratings, etc. have been given in Chapter III.

It is a truism that some element of judgment necessarily enters into ranking. Biased opinion may be due to lack of understanding or reluctance or indifference on the part of respondents. Hence, it is difficult to claim any precision on these results which are tentative and subject to verification through further replications. Notwithstanding these limitations, the results obtained reveal a trend with regard to the importance of different causes of school dropout as perceived by parents, teachers and educationists. The results are discussed in the succeeding paragraphs for primary and middle stages of education, separately.

PRIMARY STAGE

The computed averaged ratings of each of the three groups for the primary stage are ranked below:

TABLE 70

Ranks based on averaged ratings of parents, teachers and educationists - primary stage

Variable	Parents		Teachers		Educationists	
	Averaged rating	Rank	Averaged rating	Rank	Averaged rating	Rank
Pupil Area						
Learning difficulties	2.62	6	2.54	7	2.43	8.5
Poor health and disability	3.06	2	2.87	1	2.26	12
Poor social adjustment	2.40	10	2.35	12.5	1.81	15
Retarded emotional maturity	2.63	5	2.46	9	2.37	10
Inadequate motivation for learning	2.32	12	2.41	10	2.43	8.5
Family Area						
Economic needs	2.74	4	2.36	11	2.25	13
Cultural backwardness	2.48	8	2.12	15	2.07	14
Low socio-economic status of the family	3.00	3	2.83	2	2.92	4
Family's disinterest in education	2.49	7	2.49	8	2.97	3
Excessive involvement of children in domestic work	3.11	1	2.79	4	3.14	1
School Area						
Sub-standard teaching personnel	2.05	14	2.28	14	2.30	11
Defective school organisation and administration	2.35	11	2.81	3	2.73	6
Inadequate physical facilities	1.94	15	2.35	12.5	2.44	7
Defective school curriculum	2.23	13	2.63	5	2.85	5
Lack of school community relationship	2.45	9	2.57	6	3.13	2

It is observed from the table that averaged ratings range between 1.94 and 3.11 in the case of parents, 2.12 and 2.87 in the case of teachers and 1.81 and 3.14 in the case of educationists. Evidently, teachers have not discriminated so much between the various causes of school dropouts as parents and educationists have done.

It is further seen that according to parents, the first five causes in order of importance are: excessive involvement of children in domestic work, pupil's poor health and disability, low socio-economic status of the family, family's economic needs and pupils retarded emotional maturity. As it is evident, parents do not seem to attach any significance to the school factors perhaps because of their ignorance.

The order of priority of different variables based on teachers' ratings is somewhat different from that of parents. According to teachers, the first five variables in order of significance are: pupil's poor health and disability, low socio-economic status of the family, defective school organisation and administration, excessive involvement of children in domestic work and defective school curriculum. Thus it is obvious that apart from pupil factors and family factors, teachers attach significance to some of the variables related to the school area also. This is because of the fact that they have first-hand knowledge of the school factors.

The first five variables based on educationists' ratings are: excessive involvement of children in domestic work, lack of school-community relationship, family's disinterest in education, low socio-economic status of the family and defective school curriculum. It is evident that educationists do not place any premium on any of the factors related to the pupil area.

On comparing the ratings of the three groups, it was found that they did not differ significantly.* Hence, the ratings of each of the groups were pooled together to establish combined ranks. The results obtained are presented in the following table:

TABLE 71

Ranks based on pooled averaged rating of parents, teachers and educationist - primary stage

Variable	Pooled averaged rating	Rank
Excessive involvement of children in domestic work	9.04	1
Low socio-economic status of the family	8.75	2
Pupil's poor health and disability	8.19	3
Lack of school-community relationship	8.15	4
Family's disinterest in education	7.95	5

* The value of 'H' obtained was .0149, which was computed by using the formula:

$$H = \frac{12}{N(N+1)} \sum_{1}^{k} \frac{Ri^2}{Ni} - 3(N+1)$$

where N denotes the sum of all the samples, Ni is the number of observations in ith sample and Ri is the sum of the ranks assigned to the observations in that sample.

Defective school organisation and administration	7.89	6
Defective school curriculum	7.71	7
Pupil's learning difficulties	7.59	8
Pupil's retarded emotional maturity	7.46	9
Family's economic needs	7.35	10
Pupil's inadequate motivation for learning	7.16	11
Inadequate physical facilities in school	6.73	12
Family's cultural backwardness	6.67	13
Sub-standard teaching personnel in school	6.63	14
Pupil's poor social adjustment	6.56	15

It will be seen that the two family factors, namely, excessive involvement of children in domestic work and low socio-economic status of the family have obtained the first two ranks because of near unanimity among the three groups. Chickermane[3] also found that of the four home factors (economic condition of the family, excessive involvement of children in domestic work, indifference of parents' towards education and educational status of the family) studied by him, excessive involvement of children in domestic work contributed maximally to wastage in primary education. The third position obtained by a pupil factor "pupil's poor health and disability" is because of the higher weightage given to it by parents

3. D.V. Chickermane, "Influence of Home Circumstances on Wastage in Primary Education", op. cit., p.139.

and teachers. "Lack of school-community relationship" is the next variable in order of importance and the reason for its being so significant is the high ratings given to it by teachers and educationists. "Family's disinterest in education" has obtained the fifth rank in order of importance because of greater significance attached to it by educationists. Thus, it will be seen that among the first five variables in order of importance, three belong to the family area, one to the pupil area and one to the school area which means that the educational authorities need to concentrate upon family factors so as to deal with the problem of school dropouts more effectively. It is interesting to note that, contrary to popular belief, all the three groups consider the contribution of variables like "sub-standard teaching personnel" and "inadequate physical facilities in school" to the phenomenon of dropping out as relatively less important. Perhaps the significance of these variables appears to have been eclipsed by other relatively more important factors related, particularly, to the family area. As regards the contribution of other variables, it is seen that they are either considered relatively insignificant by all the three groups, or the difference among the three groups about their importance are too wide to suggest any conclusive inferences.

MIDDLE STAGE

Ranks based on the computed averaged ratings of parents, teachers and educationists for the middle stage of education are given below:

TABLE 72

Ranksbased on averaged ratings of parents, teachers and educationists - middle stage

Variable	Parents		Teachers		Educationists	
	Averaged rating	Rank	Averaged rating	Rank	Averaged rating	Rank
Pupil Area						
Learning difficulties	2.73	6	2.98	5	2.81	7
Poor health and disability	2.97	3	2.97	6	2.26	15
Poor social adjustment	2.31	13	2.66	13	2.34	14
Retarded emotional maturity	2.63	7	2.82	10	2.56	13
Inadequate motivation for learning	2.34	12	2.50	15	2.69	9
Family Area						
Economic needs	2.92	4	3.15	3	2.89	6
Cultural backwardness	2.83	5	2.92	8	2.73	8
Low socio-economic status of the family	3.06	2	3.23	2	3.19	3
Family's disinterest in education	2.61	8	2.95	7	3.12	4
Excessive involvement of children in domestic work	3.18	1	3.41	1	3.24	2
School Area						
Substandard teaching personnel	2.00	15	2.66	13	2.67	10.5
Defective school organisation and administration	2.38	9.5	3.00	4	2.65	12
Inadequate physical facilities	2.14	14	2.81	11	2.67	10.5
Defective school curriculum	2.36	11	2.88	9	3.11	5
Lack of school-community relationship	2.38	9.5	2.66	13	3.28	1

The above table shows that the averaged ratings range between 2.00 and 3.18 in the case of parents, 2.60 and 3.41 in the case of teachers and 2.26 and 3.28 in the case of educationists. As for the primary stage, teachers' attitude towards discriminating between the different causes of school dropouts is non-committal, while parents and educationists have exercised their opinion more freely.

It is further observed that according to parents, the first five variables in order of importance are: excessive involvement of children in domestic work, low socio-economic status of the family, pupil's poor health and disability, family's economic needs and cultural backwardness of the family. As for the primary stage, parents attach least importance to the factors related to the school area for the middle stage also, perhaps because of their ignorance.

As regards ranks established on the basis of teachers' ratings, the first five variables in order of importance are: excessive involvement of children in domestic work, low socio-economic status of the family, family's economic needs, defective school organisation and administration and pupil's learning difficulties. It is obvious that parents and teachers have expressed complete unanimity about the relative importance of two family factors, viz., excessive involvement of children in domestic work and low socio-economic status of the family. Although teachers do feel that " poor health and disability of the pupils" is a factor contributing to the phenomenon of dropping out, they do not consider it that important as parents do. They, more or less, agree

with parents in considering family's economic needs, as one of the most important factors contributing to the phenomenon of school dropout at th middle stage. Defective school organisation and administration and pupil's learning difficulties are the other two factors which are considered to be relatively more important by teachers at the middle stage, obviously because teachers are knowledgeable about these factors, while parents are ignorant.

The variables obtaining the first five ranks on the basis of educationists' ratings are: lack of school-community relationship, excessive involvement of children in domestic work, low socio-economic status of the family, family's disinterest in education and defective school curriculum. It is interesting to note that neither teachers nor parents consider lack of school-cummunity relationship as an important factor contributing to the phenomenon of school dropout. There is, however, near unanimity among the three groups with regard to the relative significance of the two family factors, viz., excessive involvement of children in domestic work and low socio-economic status of the family. Family's disinterest in education as a contributory factor to the phenomenon of dropping out from school has obtained the fourth position in educationists' ratings, whereas parents and teachers consider this variable as relatively less important. It would, however, appear that this factor is quite significant in as much as it accentuates the problem of school dropout. Again, educationists have placed high

premium on defective school curriculum in the context of school dropout, while parents and teachers do not attach any significance to this variable. It is obvious that if the school curriculum does not suit the varying interests and abilities of children, some of them if not all, would feel dissatisfied and perhaps they would start repeating grade and ultimately dropout from school before completing the last grade of middle school education. Again, if the school curriculum does not prepare children for certain skills which are required to meet the economic needs of the local community, some children are likely to be withdrawn prematurely from school by their parents. Like parents and teachers, educationists attach higher significance to the family's economic needs at the middle stage as a contributory factor to the phenomenon of school dropout (this factor has obtained the sixth rank on the basis of educationists' ratings) for obvious reasons.

On comparing the ratings of the three groups, it was found that they differed significantly.* The ratings given by them, therefore, were not pooled to get the combined ranks.

Results of Primary and Middle Stages Compared

It may be interesting to compare the first five variables in order of importance at the primary stage with the variables having corresponding ranks at the middle stage.

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* The value of 'H' obtained was 6.19 which is significant at .05 level.

A comparison of the results based on parents' ratings shows that the variables like excessive involvement of children in domestic work, pupil's poor health and disability, low socio-economic status of the family and family's economic needs are common to both the stages and figure among the first five ranks. The first and the fourth variables have received exactly the same ranks at both the stages, while the second and the third variables at the primary stage have interchanged ranks with those at the middle stage. The fifth variable "pupil's retarded emotional maturity" at the primary stage has been replaced by "cultural backwardness of the family" at the middle stage.

On comparing the results obtained for the primary stage based on teachers' ratings with those for the middle stage, it is seen that among the first five variables, excessive involvement of children in domestic work, low socio-economic status of the family, defective school organization and administration, are common to both the primary as well as middle stages, whereas variables like "pupil's poor health and disability" and "defective" school curriculum" at the primary stage have been replaced by "family's economic needs" and "pupil's learning difficulties" at the middle stage. The higher importance given by teachers to the factor "family's economic needs" at the middle stage is understandable because children at this stage become economically more useful to the family and are likely to be withdrawn prematurely from school by their parents. As regards the relative importance of the variable "pupil's learning difficulties" based on teachers' ratings, there does not appear any marked

difference between the rank obtained by this variable at the primary and middle stages of education.

A comparison of the first five variables in order of importance at the primary as well as middle stages of education as rated by educationists shows that all the five variables, viz., excessive involvement of children in domestic work, lack of school-community relationship, family's disinterest in education, low socio-economic status of the family and defective school curriculum are common to both the stages with slight variations in the ranks obtained by the first four variables.

It emerges from the foregoing analysis that the two family factors, viz., excessive involvement of children in domestic work and low socio-economic status of the family contribute maximally to the phenomenon of school dropout both at the primary as well as middle stages of education. These factors, therefore, need to be tackled by the educational authorities on priority basis to reduce the incidence of wastage in primary and middle schools.

Results of Discriminant Function Analysis and Opinion Poll Approach Compared

It may be worthwhile to compare the results obtained from discriminant function analysis and opinion poll approach. Under the former method, the variables "attendance in school" and "academic performance" separate maximally the dropouts from stayins. Under the latter method, "excessive involvement of children in domestic work" and "low socio-economic status of the family" have the highest contribution to the phenomenon of school

dropout. On closer examination, it would appear that all these variables are interconnected. Irregular attendance may be the consequence of excessive involvement of children in domestic work, apart from other factors. Again, pupil's poor achievement in studies may be due to excessive involvement in domestic work, lack of books and stationery and lack of motivation for learning from home, etc. For all these factors, low socio-economic status of the family may perhaps be responsible.

Educational Implications

PRIMARY STAGE Table 71 shows that the first five causes of school dropout in order of importance are: excessive involvement of children in domestic work, low socio-economic status of the family, pupil's poor health and disability, lack of school-community relationship and family's disinterest in education.

The variable "excessive involvement of children in domestic work implies that children are kept so busy in doing home work, particularly in rural areas, that no free time is left to them for study. The excessive liability of children in doing home work in the economically backward homes, is generally prompted by economic needs. Children are required for tending the cattle or for looking after the youngsters at home, so that parents could be released for going out for work. Children thus become irregular in attendance in school which leads to their educational backwardness ultimately resulting in stagnation and dropout. To reduce the

incidence of school dropout resulting from this variable, the educational authorities may conduct preliminary socio-economic surveys of the local communities to find out their income and their occupational patterns. Such surveys would help the educational authorities to adjust school hours and vacations in such a way as to meet the economic needs of the community.

The variable "low socio-economic status of the family" is next in importance as a contributory factor to the phenomenon of dropping out. The constituents of low socio-economic status are: low caste, low occupation and low income. Although the barriers of caste are gradually breaking down in this country, yet the influence of caste in rural areas is very significant. As stated earlier, the relationship between caste and occupation is also getting weaker. As regards the effect of low income on school dropouts, most of the financially handicapped parents cannot even afford to purchase books and stationery for their wards, what to speak of school uniform. The school authorities can minimise the incidence of wastage resulting from this factor by providing stipends, free books, free stationery and free uniforms to the deserving pupils. The criterion to be followed for the award of stipends and for the grant of financial assistance to purchase books and stationery should be the per capita income of the family.

The third variable in order of importance is "pupil's poor health and disability". Surprisingly enough, this variable has obtained highly significant position in the present study, while the other

studies[4] have shown that it is relatively less important. It appears that the respondents to the opinionnaire could not perhaps understand the implications of this factor and ranked it in the situational context rather than in the frequency context i.e. the number of pupils dropping out on account of this factor. Be this as it may, it can be reasonably expected that children who do not keep good health are likely to become irregular in attendance which leads to their backwardness in studies and which, in turn, is followed by stagnation and wastage. As regards physically handicapped children, it is not uncommon to see that they are nick-named and looked down upon by their peers in school. This creates adjustment difficulties for them and they start suffering from inferiority complex. Examining this factor from the stand-point of Adlerian thesis,[5] it is possible that some of the physically handicapped children who have a strong ego may try to overcompensate their disability by outshining others in academic achievement but by and large, the number of such cases will be negligible.

The educational authorities can help in reducing the extent of school dropouts due to this cause by providing regular medical examination and follow-up of each individual child in school. The school feeding programme (mid-day meal) may also perhaps prove useful in minimising the extent of educational wastage among under-nourished children. Further-

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4. Asian Institute of Educational Planning and Administration, New Delhi, op. cit., p.33
5. Madelaine Ganz, The Psychology of Alfred Adler and the Development of the Child, Routledge and Kegan Paul Ltd, London, 1953 pp.6-8.

more, the school authorities may take meticulous care to see that suitable environment is provided for the physically handicapped children in school, so that they feel well adjusted to that environment.

Next in importance is the variable "lack of school-community relationship". At present, in average Indian schools, contact between the school and the community is conspicuous by its absence. Needless to say, education being a joint venture, active partnership between formal agencies of education like school and informal agencies of education like home and community is imperative to reduce wastage among children studying in primary schools. A variety of measures can be taken to promote cooperation between the school and the community. These measures are too well known to be mentioned here.

"Family's disinterest in education" is the next variable in order of importance in the context of the problem of wastage in primary education. Evidently, there can be many reasons for the indifference of the members of the family towards education. For example, they may be disinterested because of their low educational status, their poor perception of the value of education, their low income level, etc. Perhaps the best course to make the family members interested in education would be to launch a widespread campaign for adult literacy. The educational authorities may take necessary steps in this direction if the incidence of wastage is intended

to be reduced at the primary stage. As stated earlier, to deal with the economic backwardness of the family, financial assistance may be provided to the needy parents for the purchase of books, stationery, etc. for their children and also steps may be taken to adjust the school hours and vacations to meet the economic needs of parents. This type of multi-pronged attack will perhaps break the family's indifference towards education.

MIDDLE STAGE A casual examination of table 72 shows that, by and large, family factors have received higher ranks based on the ratings of each of the three groups of parents, teachers, and educationists than those obtained by factors in the pupil area and the school area. "Excessive involvement of children in domestic work" and "low socio-economic status of the family" are the two such factors as have received ranks among the first five variables from all the three groups. Another family factor "family's economic needs" has been considered relatively more important by parents and teachers. All these variables are inter-linked and point to only one direction and that is that the economic and social backwardness of the family is mainly responsible for wastage at the middle stage of education. For this, the educational authorities may take remedial measures as suggested for the primary stage.

Parents do not consider any school factor as important in the context of wastage at the middle stage, whereas teachers and educationists attach high signi-ficance to some of these factors. For example, ratings

obtained from teachers reveal that "defective school organisation and administration" is one of the first five factors in order of importance at the middle stage. Similarly, educationists place high premium on school variables like "lack of school-community relationship" and "defective school curriculum" as contributing to the phenomenon of dropping out. The implications of these school factors for the educational authorities are too obvious to be narrated here.

Based on the ratings given by parents and teachers, the two pupil factors, viz., "pupil's poor health and disability" and "pupil's learning difficulties" are also relatively more important and need to be tackled effectively. As regards the former variable which contributes equally to the dropout phenomenon both at the primary and middle stages, remedial measures have been detailed earlier. The latter variable may include low general intelligence, lack of interest in education, poor study habits, difficulties in learning specific school subjects, etc. All these difficulties need to be identified in the case of each individual child by teachers in the first instance and the remedial measures taken accordingly. Teachers may well advise parents of a particular child to withdraw him from school, if his I.Q. is too low. Through improved instructional methods and a variety of co-curricular activities, they may try to make the children concerned interested in education. For those, who have poor study habits, teachers may try to improve their habits

through counselling therapy. For this, teachers will have to be given orientation to the techniques of counselling. For such children as are backward in certain school subjects, extra coaching after school hours may be arranged.

To sum up, family factors being more important than others, the educational authorities need to concentrate upon such factors to minimise the extent of school dropouts at the elementary stage. This, however, does not mean that the importance of factors in the pupil area and the school area is being under-rated. Relatively speaking, pupil factors and school factors are less important than family factors. But all the same, these have also to be tackled effectively along the lines suggested above.

CHAPTER VII

THE EPILOGUE

I. CONCLUSIONS

A. Incidence of Wastage and Stagnation

1. The total rate of wastage and stagnation is 65.30 per cent by the time children reach grade V and 78.35 per cent by the time they reach grade VIII.

2. Of 100 pupils enrolled in grade I, about 39 drop out or stagnate in grade I, 11 in grade II, 8 each in grades III and IV, 7 in grade V, 3 in grade VI and 2 each in grades VII and VIII. As is evident from these figures, about 50 per cent of the total wastage and stagnation at the elementary stage is in grade I itself and the incidence decreases as the pupils move from lower to higher grades.

3. The sex-wise rate of wastage and stagnation at different stages of education is as under:

Stage	Rate (%)	
	Boys	Girls
Primary	62.30	71.36
Middle	20.43	25.95
Elementary(Primary+ Middle)	75.09	84.74

The above figures show that the incidence of wastage and stagnation is higher among girls than among boys.

4. The rate of wastage and stagnation has remained constant both at the primary and middle stages of education during the past 10-12 years despite the continuing rise in per pupil expenditure at current as well as constant prices. Obviously, a constant rate implies an increasing wastage both in absolute and relative terms.

5. There are significant differences among sampled schools in the rate of dropout. The rate of dropout is perhaps highest in schools located in big metropolitan cities like Delhi and Bombay, is next highest in rural schools and is lowest in other urban schools. This is warranted by the data collected for the present study which is, however, too inadequate to generalise on a large scale.

(a) Causes in relation to school variables

1. The rate of dropout is related to the shift system in schools. The rate is higher in double-shift than in single-shift schools. Among double-shift schools, the rate is lower in morning shift than in evening shift schools. As these results are based on the data collected from the Union Territory of Delhi only, the sample is too small to permit any generalisation on a large scale.

2. The rate of dropout is negatively related to the qualifications and the per capita income of teachers which means that the higher the qualifications and the higher the per capita income of teachers posted in a school, the lower is its rate of dropout.

3. Similarly, the rate of dropout is negaitvely associated with the co-curricular activities provided in the schools. This implies that the larger the provision of co-curricular activities in a school, the lower is its rate of dropout.

4. The rate of dropout is positively related to the distance of teachers' residence from the school and the teacher-pupil ratio. This means that the smaller the distance of teachers' residence from the school and the lower the teacher-pupil ratio, the lower is the rate of dropout.

(b) Causes in relation to pupil variables

1. The academic performance of stayins is superior to that of dropouts.

2. Dropouts have lower attendance in school than that of stayins. A pupil who has less than 60 per cent attendance is a potential dropout.

3. At the time of admission to school, more dropouts than stayins are of higher age than the one prescribed by the State Departments of Education.

4. Stayins are more interested in education than dropouts.

5. More stayins than dropouts perceive their teachers as kind and competent.

6. More stayins than dropouts are rewarded by their parents on educationally relevant activities.

7. More stayins than dropouts are punished in school on educationally relevant activities.

8. More stayins than dropouts hold leadership assignments and monitorial positions in school.

9. More stayins than dropouts perceive that their parents attach high significance to education.

(c) Causes in relation to family variables

1. More dropouts than stayins come from small-sized families.

2. More dropouts than stayins are the only children.

3. More dropouts than stayins are the first born children.

4. More dropouts than stayins come from homes which have suffered the loss of one or both the parents.

5. More dropouts than stayins come from nuclear families.

6. More dropouts than stayins belong to scheduled castes/scheduled tribes and other backward classes.

7. More dropouts than stayins come from families which are engaged in occupations like agriculture, labour and artisanship.

8. More dropouts than stayins come from families having lower educational status.

9. More dropouts than stayins come from families having lower income level.

10. Parents of relatively a large number of stayins are younger in age than those of dropouts.

11. Parents of stayins are more satisfied with the academic performance of their children than those of dropouts.

12. More parents of stayins than those of dropouts feel satisfied with the provision of physical facilities in school.

13. More parents of stayins than those of dropouts perceive the need for educating their children as greater.

14. More parents of dropouts than those of stayins perceive the burden of the cost of the education as heavier.

(d) Causes given by dropouts

In rural primary schools, about 43 per cent boys reported that they had dropped out from school because of the economic backwardness of the family, while the corresponding figure for boys studying in rural middle schools is slightly more than 50 per cent. In the case of girls studying in these schools, the percentages of dropout attributable to thepoor economic condition of the family are respectively 21 and 10 only. Domestic work, marriage or

betrothal and parental indifference towards education combined together account for 55 per cent of the total wastage among girls.

The causes of wastage in urban primary schools are practically the same as for those studying in rural primary schools with the addition of another factor 'migration to native places'. 15 per cent of the pupils in Bombay leave school because of this reason. In urban middle schools, about 39 per cent boys dropout because of poor educational achievement.

(e) Causes given by dropouts' parents

There is a fair agreement between the causes given by parents of dropouts and dropouts themselves. According to dropouts' parents, the economic backwardness of the family and pupils' poor achievement in studies are the two most important causes, while parental indifference towards education is the least important.

(f) Causes given by teachers

Illness of pupils, their mental retardation, their academic backwardness, their social maladjustment, their emotional problems, home factors and some of the school factors are the causes of dropping out as mentioned by teachers. However, teachers believe that two main factors responsible for the phenomenon of educational wastage are the poverty of parents and their indifference towards education.

C. Relative Importance of Causes of Wastage

(a) Results based on discriminant function analysis

In primary education, the first six variables in order of importance which maximally discriminate dropouts from stayins are: attendance in school, parents' view of child's educational performance, motivation for learning from home, pupil's academic performance, caste and age at the time of admission to school.

At the middle stage, the corresponding order of the first six variables is: attendance in school, pupil's academic performance, interest in education, motivation for learning from home, age at the time of admission to school and parents' view of child's educational performance. Thus, it is evident that among the first six variables, five are common to both the primary as well as middle stages of education, although the ranks of some of these variables are not exactly the same.

(b) Results based on opinion poll approach

At the primary stage, the relative importance of the first five causes based on the perception of parents, teachers and educationists (who do not differ significantly in their ratings) are : excessive involvement of children in domestic work, low socio-economic status of the family, pupil's poor health and disability, lack of school- community relationship, and family's disinterest in education. Thus, of these five variables, three belong to the family area, one to the pupil area and one to the school area.

As regards the middle stage, a statistical analysis of the data shows that the three groups of parents, teachers and educationists differ significantly in their ratings from one another. According to parents, the first five variables in order of relative importance are: excessive involvement of children in domestic work, low socio-economic status of the family, pupil's poor health and disability, family's economic needs and cultural backwardness of the family.

The first five variables in order of importance as rated by teachers are: excessive involvement of children in domestic work, low socio-economic status of the family, family's economic needs, defective school organisation and administration, and pupil's learning difficulties. The variables obtaining the first five ranks in order of importance on the basis of educationists' ratings are: lack of school-community relationship, excessive involvement of children in domestic work, low socio-economic status of the family, family's disinterest in education, and defective school curriculum.

It can be seen that parents do not attach any significance to school factors, perhaps because of their ignorance. On the whole, there is consensus among the three groups about the highest contribution of two family factors viz., excessive involvement of children in domestic work and low socio-economic status of the family to the phenomenon of dropping out both at the primary as well as middle stages of education.

II. RECOMMENDATIONS

1. Greater efforts are needed towards reducing the rate of wastage and stagnation for a constant rate means an increasing wastage both in absolute as well as relative terms.

2. A constant rate needs to be interpreted keeping in view the ratio of children attending schools from different socio-economic groups. With the universalisation of education, this ratio has altered during recent years. A larger number of children are now being drawn to school from lower strata of society. It may not be too much to assume that the rate of dropout among such children is higher which offsets the reduction achieved in the rate among children belonging to higher socio-economic groups. The validity of this assumption, however, needs to be examined through further research and if it is confirmed, the efforts made in the direction of reducing wastage and stagnation will have to be intensified with particular reference to children from lower socio-economic brackets.

3. The efforts for reducing wastage and stagnation should be concentrated upon grades I and II because it is in these grades taken together that the extent is the highest. It may be useful to refer to the experiments carried out by the Educational Research Unit of the Bombay Municipal Corporation.[1] Of various experiments three need special mention: (i) activity method in grades I and II whereby children are taught through play techniques, (ii) recruitment of competent teachers to teach in grades I and II, and (iii) 'Ungraded Unit' system, under which the courses of grades I and II are integrated into a non-graded continuous course, so that both slow and fast learners may progress at a pace suitable to their own rate

1. Quoted in Country Report on Wastage and Stagnation at the First Level of Education in India (presented by C.L. Sapra at Unesco seminar held at Bangkok, Sept. 5-12, 1966), Ministry of Education, Government of India, 1966. pp.25-27.

of development. These experiments are reported to have shown encouraging results in reducing the extent of wastage in grades I and II and may, therefore, be profitably tried out in other States.

4. Greater attention has to be paid to reducing the extent of wastage and stagnation among girls because the rate among girls is higher than among boys.

5. An attempt should be made, as far as possible, to recruit more qualified than experienced teachers, if the choice is to be made between the two. The reason being that schools having more qualified teachers have lower rate of dropout, while teaching experience as a variable is independent of the rate of dropout.

6. Teachers working in primary and middle schools should be given a 'fair deal' in the form of enhanced pay-scales, etc. because the rate of dropout in schools having teachers with higher per capita income is less.

7. As far as possible, teachers should be posted in such schools as are nearer to their residence, since the rate of dropout is higher in schools where teachers come from longer distance.

8. An attempt should be made to reduce the number of pupils per teacher because the rate of dropout is less in such schools as are having lower teacher-pupil ratio. However, the norms of teacher-

pupil ratio for different age-grade levels need to be established through further research.

9. Steps should be taken to provide adequate co-curricular activities in primary and middle schools, since the rate of dropout in schools having a larger number of co-curricular activities is less.

10. In the scheme of maximally separating the two groups, i.e. dropouts from stayins, the first five variables in order of importance are: attendance in school, pupil's academic performance, parents' view of child's educational performance, motivation for learning from home and age at the time of admission to school. For the sake of clarity, these variables are spelled out below:

i) Stayins are more regular in their attendance than dropouts.

ii) Dropouts' academic performance is lower than that of stayins.

iii) Parents of stayins are more satisfied with the educational performance of their wards than those of dropouts.

iv) The home environment of stayins is more congenial for learning than that of dropouts.

v) More dropouts than stayins are of higher age than the prescribed one at the time of of their admission to school.

Based on this priority order, the educational authorities should launch a programme of action to reduce wastage and stagnation among children of primay and middle schools. In the proposed programme, irregularity in attendance may be taken as a signal of coming events by the teachers. They should make quick contact with

the parents of a child who stops coming to school or who starts attending the school irregularly. Such children should be brought back to school either through compulsion or persuasion, depending upon the situation in each individual case.

Meticulous care of academically backward children should be taken by the teachers. Weak students should be helped by arranging extra coaching after school hours.

To improve the parents' view of child's educational performance as compared to that of other children of his own age-group, the teachers may use the therapy of counseling. Needless to say, teachers will have to be given orientation to the techniques of counselling before they start work in this direction.

All-out efforts should also be made by the teachers through counselling of parents to change the attitude of the latter towards education and to orient them to the need and importance of motivating their children for learning.

The difference in the age of pupils at the time of admission to school leads to heterogeneity in their age-composition. This problem should be tackled by restricting fresh admissions to grade I to the first 2 to 3 months of the academic session in all States/Union Territories. Also, a census of children of school-going age should be taken by the teachers in every village/town/city every year. The results of the census should be

brought to the notice of the parents of children of school-going age so that the parents could spare the children for enrolment.

II. The results based on the opinions of parents, teachers and educationists show that the the two family factors, viz. excessive involvement of children in domestic work and low socio-economic status of the family are relatively more important than other factors. On closer examination, it would appear that both these factors are mainly related to the economic backwardness of the family. The financially handicapped parents are compelled to prematurely withdraw their children from school either because they cannot afford the cost of educating them or because they need their help in the economic activities of the family. To reduce educational wastage caused by this variable, the educational authorities should provide stipends, free text-books, free stationery and free uniform to the needy children. As far as possible, cooperation of the local communities may be enlisted to finance these items. Steps should also be taken to adjust school hours and school vacations to meet the economic needs of the community need. Prior to this, the economic needs of the community may be ascertained through preliminary surveys.

III. <u>SUGGESTIONS FOR NEEDED RESEARCH</u>

1. The studies conducted so far to estimate the extent of wastage and stagnation through cohort method have a backward look in the sense that they cover

past periods. A large scale forward looking longitudinal study needs to be undertaken following the career of a cohort (intact group) of pupils through future years.

2. Special studies are also needed to estimate the proportion of stagnation in the total figure of wastage and stagnation at the national level. Earlier studies (these are local in character) reveal that the rate of wastage and stagnation in the first four grades in primary schools is about 79 per cent, of which wastage accounts for 41.4 per cent /and stagnation 37.5 per cent. The wastage figure/ includes many of those students as well who leave school prematurely due to stagnation. If this is added to the stagnation rate of 37.5 per cent, the stagnation figure will probably go up as high as 60 per cent. However, before this figure is accepted, it needs to be empirically verified. If it is confirmed, the problem of wastage and stagnation will then primarily be the problem of reducing stagnation.

3. Studies of intensive nature need to be undertaken for identifying the causes of grade repetition and premature withdrawal of children from school belonging to the following categories:

i) Children studying in grade I,

ii) Children belonging to weaker sections of society-scheduled castes/scheduled tribes and other backward classes,

iii) girls, especially in rural areas,

iv) the only children, and

v) the first born children.

4. As the community variables hypothesised in Chapter I of this report could not be studied due to the limitation of time, the hypotheses formulated in relation to these variables may be examined through special studies./(i) highly industralised, (ii) semi-industralised, (iii) rural communities with agriculture as the main vocation, (iv) rural communities having a large number of landless labourers, (v) communities living in slum areas in big metropolitan cities, etc. This would provide a macroscopic view of the problem of wastage and stagnation. Again, the outcome of such a study will provide estimates of differences in the rate of dropout among children coming from different communities and also the causes of their dropping out.

/The studies may be conducted among such communities as:

5. Special forward looking longitudinal studies are also needed to find out differences between 'potential' dropouts and stayins.

6. The present study had a limited objective of finding out concomitant relationships between some of the independent variables and the dependent variable, the phenomenon of dropping out. This study may be followed up by experimental studies to assess the effects of various conditions (treatments) on the dropout rate. This is the most sophisticated level of research, which can help in establishing causal relationships. Because of its special importance, the experimental approach relevant to the study of educational wastage

is being explained below in greater detail.

Since it is difficult to randomly assign individuals to different experimental conditions, or to match them in different experimental groups in the school situation, the sampling unit for the purpose of random assignment to experimental conditions must be a school. A basic type of experimental design which can be appropriately applied to this kind of situation is the "groups-within-treatments" type by Lindquist.[2] Within the framework of this experimental design, the schools are assigned at random to various experimental conditions. Analysis of variance may be used as the basic analytical method, which can be extended to analysis of co-variance by controlling, through regression formula, one or more variables which are correlated with the criterion variable. It may be useful to suggest below the three designs based on the basic type of experimental design (groups-within-treatments type).

a) Simple randomized design

A simple randomized design may be adopted when the effects of a single experimental variable are to be studied. The experimental variable may be divided into any number of categories according to qualitative or quantitative differences, each of which then represents a different experimental condition or treatment. For example, the experimental variable to be examined may be the type of curriculum, and thus the experimental treatment groups would

2. E.F. Lindquist, Design and Analysis of Experiments in Psychology and Education, Boston, Houghton Mifflin Company, 1953.

would represent several different curricula; or the experimental variable may be the provision of co-curricular activities, in which case the experimental groups would represent different types of co-curricular activities.

In a simple randomized design, the sampling procedure involves random sampling of schools from the population of schools to which the experimental findings are to be generalized, and random assignment of the sample of schools to each treatment category. After the 'treatment' period, the criterion variable for each school would need to be expressed in terms of the proportion of dropouts to total enrolment.

b) Factorial Design

Another research design which can be profitably used to study the effects of more than one variable concurrently and which also yields information on the effects of interaction between variables is the factorial design. In this design, for example, the effects on dropout rate may be assessed concurrently of introducing variables like mid-day meals, scholarships, free text-books and stationery, free uniform, etc. The sampling procedure in this design is similar to that suggested for a single randomized design except that the number of schools assigned to each experimental group, have to be predetermined for the purpose of convenience in computing analysis of variance.

c) Factorial Design by Levels

In order to achieve greater precision in an experiment using the factorial design, several strata or levels may be presented in the sample. For having

4 mcg.

different strata, the population of schools may be classified by management (government/local body/private), by location (rural/urban) and by sex (boys/girls/co-educational). Alternatively, the strata may include different socio-economic groups from which children are drawn to school, e.g., tribals, industrial workers, peasants, landless labourers, persons belonging to scheduled caste, scheduled tribes and other backward classes, etc. The factorial design by levels will not only increase the precision of the experiment, but will also afford information on the comparison of dropout rates for different strata and will show interaction of experimental conditions with strata.

APPENDIX I

S.I.B.

NATIONAL INSTITUTE OF EDUCATION

NATIONAL COUNCIL OF EDUCATIONAL RESEARCH AND TRAINING

SCHOOL INFORMATION BLANK

NIE-NEW PROJECT 005

(Wastage and Stagnation in Primary and Middle Schools in India)

DEPARTMENT OF EDUCATIONAL ADMINISTRATION

B-2/6A Model Town

DELHI-9.

SCHOOL INFORMATION BLANK (S.I.B.)

1. Name of the State .....

2. Name of the District .....

3. Name of the City/Town/Village .....

4. Name of the School .....

5. Whether the School is situated in: i. Urban area
   ii. Rural area

6. Month from which the academic year begins .....

7. Last month of the academic year .....

8. Class from which the school starts .....

9. Last class in the school .....

10. Whether the school is: i. For boys only
    ii. For girls only
    iii. Co-educational

11. Tick (✓) the type of management of the School.
    i. Government
    ii. Distt. Board
    iii. Panchayat Samiti/ Kshetrya Samiti
    iv. Municipal Board/ Municipal Corporation/Town Area/ Notified area
    v. Cantonement Board
    vi. Private aided
    vii. Private unaided

12. When was the school established as a :

i. Primary school ? .....

ii. Middle School ? .....

13. Tick (✓) the shift in which the school is held:

i. Morning Shift

ii. Evening Shift

iii. Day school (having no shift arrangement)

14. Indicate medium of instruction at:

i. the primary stage .....

ii. the middle stage .....

15. Enrolment in the school as on 31st March, 1963.

Grade	I			II			III			IV			V			VI			VII			VIII		
Section	B	G	T	B	G	T	B	G	T	B	G	T	B	G	T	B	G	T	B	G	T	B	G	T
A																								
B																								
C																								
D																								
E																								
F																								
Total																								

Grand Total =

16. Enrolment in the school as on 31st March, 1964.

Grade	I			II			III			IV			V			VI			VII			VIII		
Section	B	G	T	B	G	T	B	G	T	B	G	T	B	G	T	B	G	T	B	G	T	B	G	T
A																								
B																								
C																								
D																								
E																								
F																								
Total																								

Grand Total =

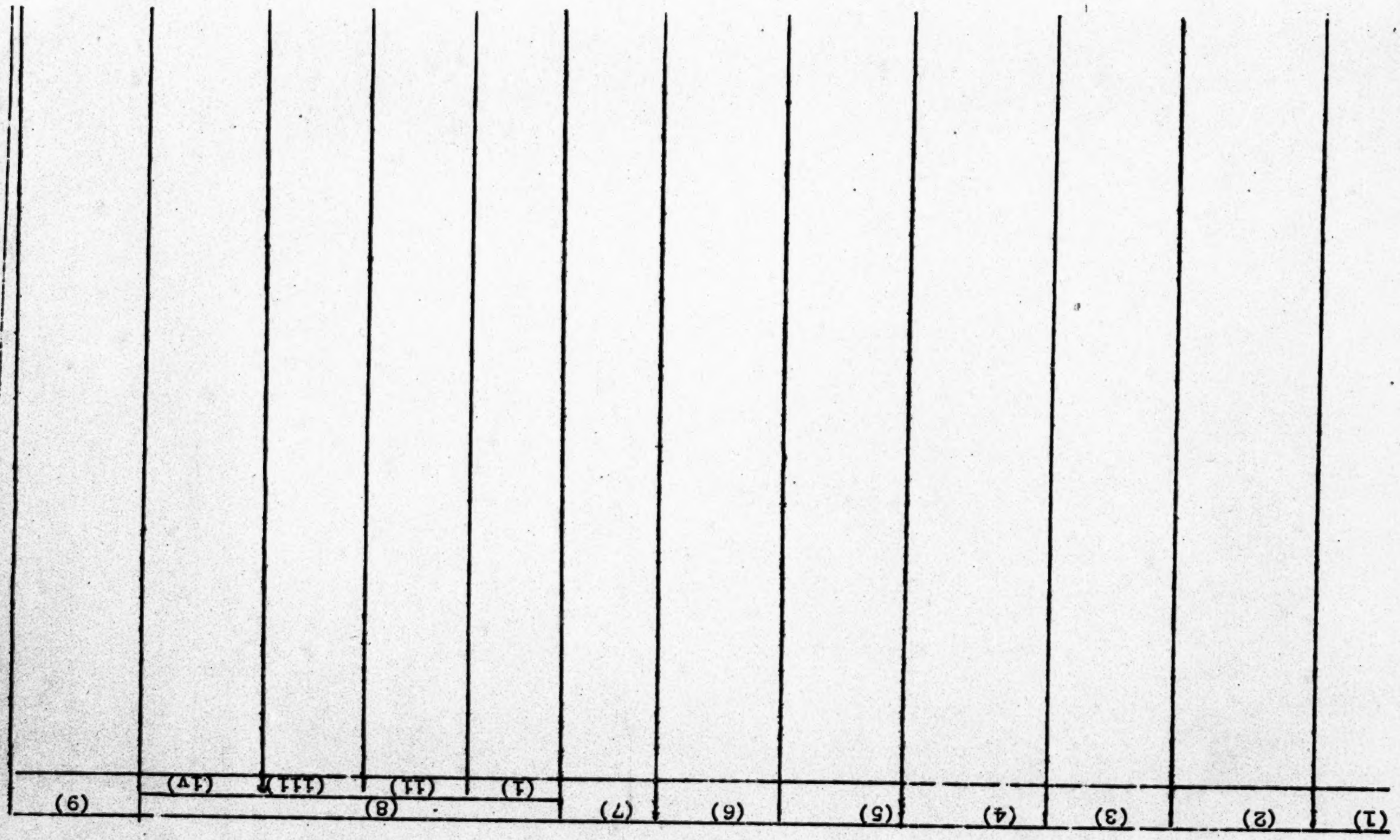
17. No. of Teachers as on 31st March

Year	No. of Teachers	
	Trained	Un-Trained
1963		
1964		

13. Give details of the students who dropped out during the year 1962-63 (i.e. one academic year)

(1) Class/ Section	(2) Adm. No.	(3) Name of the Studert	(4) Sex	(5) Month & year of leaving	(6) Reason for leaving	(7) Address	(8) Position of the Child				(9) Remarks
							Not Studying (i)	If studying, please indicate address and name of the School. (ii)	Class (iii)	Not Traceable (iv)	

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)				(9)
							(i)	(ii)	(iii)	(iv)	


(1)
(2)
(3)
(4)
(5)
(6)
(7)
(8)
(9)
(1)
(11)
(111)
(1v)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)				(9)
							(1)	(11)	(111)	(1v)	

19. Details of three students from each of the classes I to II (for Primary Schools) and classes I to V (for middle schools) who had highest attendance during the year 1962-63.

Class/ Sec.	Sl.No.	Admission number	Name of the Student	Total Meetings	Meetings attended
I	1				
	2				
	3				
II	1				
	2				
	3				
III	1				
	2				
	3				
IV	1				
	2				
	3				
V	1				
	2				
	3				

20. Give details of the students who dropped out during the year 1963-64 (i.e. one academic year)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8) Position of the Child				(9)
Class/ Section	Adm. No.	Name of the Student	Sex	Month & Year of leaving	Reason for leaving	Address	Not studying (i)	If studying, please indicate address and name of the School (ii)	Class (iii)	Not Traceable (iv)	Remarks

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)				(9)
							i)	(ii)	(iii)	(iv)	

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)				(9)
							(i)	(ii)	(iii)	(iv)	

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8) (i)	(ii)	(iii)	(iv)	(9)

21. Details of three students from each of the class I to III for Primary Schools and classes I to VI (for middle schools) who had highest attendance during the year 1963-64.

Class/ Sec.	Sl.No.	Admission number	Name of the student	Total Meetings	Meetings attended
I	1				
	2				
	3				
II	1				
	2				
	3				
III	1				
	2				
	3				
IV	1				
	2				
	3				
V	1				
	2				
	3				
VI	1				
	2				
	3				

22.-Details of teachers on the staff

(1) Code No.of the teacher	(2) Age	(3) Sex	(4) Qualifications		(5) Length of service as a teacher in		(6) Present Total Income of the		(7) Total No.of family members		(8) Distance of school from residence	(9) Social participation
			Academic	Professional	Present school	Other schools	Teacher (i)	Family (including teacher) (ii)	Male (i)	Female (ii)		

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)

23. Information about school building

(a) Tick (✓) the type of school building (i) Open air

(ii) Tented

(iii) Kuchcha

(iv) Kuchcha-Pucca

(v) Pre-fabricated

(vi) Pucca

(b) Covered accommodation in sq. yards (including varandahs, corridors etc.) .....

(c) Area of uncovered accommodation .....

(d) Urinals and latrines. (i) None

(ii) Pucca

(iii) Compost

(e) Electricity No Light

Light

Light and Fans

24.(a) Furniture (Excluding furniture in different classes)

Furniture Items	No.	Approx. cost per item	Total cost
(i) Tables for practical work in science			
(ii) Table for staff and headmaster's room.			
(iii) Storing facilities			
(a) Large Almirahs			
(b) Small Almirahs			
(c) Large size Boxes			
(d) Small size Boxes			
(e) Any other			

(b) Furniture in different classes

Grade	No Furniture	Tat-pattis		Benches		Stools		Chairs		Desks		Tables	
		No.	Total Cost	No.	Total Cost	No.	Total Cost	No.	Total Cost	No.	Total Cost	No.	Total Cost
I													
II													
III													
IV													
V													
VI													
VII													
VIII													

25. Teaching aids

Items	No.	Total Cost
(a) Maps		
(b) Charts		
(c) Models		
(d) Other teaching aids in the school including balck-board		
(e) Science equipment & material		

26. Examination result

Grade	1961-62 Number		1962-63 Number		1963-64 Number	
	appeared	passed	appeared	passed	appeared	passed
I						
II						
III						
IV						
V						
VI						
VII						
VIII						

27. Fees and funds charged per pupil

Grade	Tuition	Games	Red Cross	Bal-Sabha	Examination	Poor Boys Fund	Building	P.T.A.	Any Other
I									
II									
III									
IV									
V									
VI									
VII									
VIII									

28. Is school uniform compulsory ? Yes/No

29. (If yes) Indicate per-pupil expenditure incurred over it:

(i) by the parents .....

(ii) by the school .....

30. Per pupil(approximate) expenditure incurred in a year by a parent over books and stationery

Grade	Per pupil approximate expenditure made over the purchase of:	
	Books	Stationery
I		
II		
III		
IV		
V		
VI		
VII		
VIII		

31. Contribution of the school in the form of free books and stationery during the year 1963-64

Grade	No.of students who received books from school.	Total cost of the books given	No.of students who received stationery from school	Total cost of the stationery given
I				
II				
III				
IV				
V				
VI				
VII				
VII				

32. Per-Pupil (approximate) expenditure over mid-day meals in a year

Grade	Per Pupil expenditure made by	
	School	Parent
I		
II		
III		
IV		
V		
VI		
VII		
VIII		

33. Mention the prizes won by the school during the last three years .....

.....

34. Indicate the Co-Curricular activities followed in the school .....

.....

.....

35. Any other speciality of the school .....

.....

.....

.....

36. Scholarships and Fee Concessions made available during 1963-64

Grade	Total money spent on scholarship	Total amount of fee concessions
I		
II		
III		
IV		
V		
VI		
VII		
VIII		

APPENDIX II D.O.....

NATIONAL INSTITUTE OF EDUCATION

NATIONAL COUNCIL OF EDUCATIONAL RESEARCH

AND TRAINING

INTERVIEW SCHEDULE FOR DROP_OUTS

INTERVIEW SCHEDULE FOR DROP_OUTS PARENTS/GUARDIANS

INFORMATION SHEET FOR DROP_OUTS

NIE - HEW PROJECT 005

(Wastage and Stagnation in Primary and Middle Schools in India)

DEPARTMENT OF EDUCATIONAL ADMINISTRATION

B-2/6A, MODEL TOWN

D E L H I-9

INTERVIEW SCHEDULE FOR DROP_OUTS

Name .....

Address .....

.....

.....

School from which he dropped out .....

.....

Q.1. How many brothers and sisters have you ? Brothers..... Sisters....

Q.2. How many are older than you? Brothers..... Sisters.....

Q.3. Give the names of some of your classmates or friends who dropped out? (i)-.....

(ii).....

(iii).....

Q.4. Could you tell why they dropped out ? (i).....

(ii).....

(iii).....

Q.5. What were the reasons which led you to drop out?(i).....

(ii).....

(iii).....

Q.6. Had you continued your education, would it have benefitted you ? Yes/No

Q.7. (If yes) how? .....

.....

Q.8. What do you want to be when you grow up ? (Occupation) .....

.....

Q.9. Could you tell me in order of preference the names of some of your classmates whom you used to like most, when at school ?

(i).....

(ii).....

(iii).....

Q.10. Give the age of each of the classmates mentioned by you :

(i).....

(ii).....

(iii).....

Q.11. How does each of your classmates spend his/her time throughout the day? (Probe here and record how time from morning till evening is spent).

(i).....

.....

.....

(ii).....

.....

.....

(iii).....

.....

.....

Q.12. Give the names of your family members you like most.

(i).....

(ii).....

(iii).....

Q.13. Give the age of each of the family members mentioned by you.

(i).....

(ii).....

(iii).....

Q.14. How does each of the family members spend his/her time throughout the day?(Have similar probes here as at 11)

(i).....

(ii).....

(iii).....

Q.15 Could you give me in order of preference the names of your friends in your neighbourhood whom you like most ?

(i).....

(ii).....

(iii).....

Q.16. Give the age of each of these friends

(i).....

(ii).....

(iii).....

Q.17. How does each of these friends spend his/her time throughout the day ?(Have similar probes here as at 11)

(i).....

(ii).....

(iii).....

Q.18. How does your father view education? Important / Neutral / Unimportant

Q.19. How does your mother view education ? Important / Neutral, / Unimportant

Q.20. Could you describe any incident when your father was very much pleased by what you did ?.....

Q.21. How did you know that he was pleased ?.....

Q.22. Could you describe any incident when your father was most angry by what you did ?.....

Q.23. How did you know that he was angry ?.....

Q.24. Could you describe any incident when your mother was very much pleased by what you did ?.....

Q.25. How did you know that she was pleased ?.....

Q.26. Could you describe any incident which made your mother most angry by what you did ?.....

Q.27. How did you know that she was angry?.....

Q.28. Could you remember any incident which got you in trouble in your school ?.....

Q.29. What was your class teacher's reaction to what you did ? .....

.....

Q.30. Do you agree that teachers should be given :

i. authority to give physical punishment to students ? Yes/No

Or ii. authority to impose fines only? Yes/No

iii. no authority ? Yes/No

Q.31. (If the response is that no authority should be given to the teacher) What action would you suggest against a teacher who gives punishment? .....

.....

.....

Q.32. How did your teacher treat his/her student ?

Kindly

Harshly

Can not say

Q.33. Was your teacher competent in teaching ?

Competent

Incompetent

Average

Q.34. Was your teacher strict ?

Yes

No

Can not say

Q.35. Did your teacher take interest in you ?

Yes

No

Can not say

Q.36. Were you a monitor or some other student leader when you were in school ?

Yes/No

Q.37.(If yes) State what ? (Probe here if he was frequently asked to collect answer books, bring chalk from..... office, etc.) .....

.....

.....

.....

.....

Q.38. What were the co-curricular activities in which you participated ? .....

.....

.....

.....

Q.39.(i) Are you married ? Yes/No

(ii)(If yes) Give the month and year of marriage. Month.....Year.....

Q.40.What have you been doing since you dropped out ? .....

.....

Q.41. What do you enjoy about this ?.....

.....

INTERVIEW SCHEDULE FOR DROP-OUTS PARENTS/GUARDIANS

Q.1. Name and address of the school .....

Q.2. Name of the dropout .....

Q.3. Father's/Guardian's name and address .....

.....

.....

Q.4. Relationship to the student .....

Q.5. (i) Caste..... (ii) Sub-Caste.....

Q.6. Family data

Family members (living)	Age	Occupation	Can read	Can write	Educational qualification	Relationship to child		Remark
						Real	Step	
1	2	3	4	5	6	7		8
Father								
Mother								
Brothers								
Sisters								
Other family members[1]								

1. Family includes all the persons whose meals are coocked on the same hearth -'Chuhla'

Q. 7.(i) Were you satisfied with the standard of instructions in the school ?	Satisfied Neutral Dissatisfied
(ii)(if not) Why ?	.....
Q.8. Did you consider the social influence[2] in the school satisfactory ?	Satisfactory Neutral Unsatisfactory
Q.9. Do you think that teacher's beheviour towards your child was sympathetic ?	Sympathetic Neutral Apathetic
Q.10 Were you satisfied with the physical facilites[3] available to your child in the school ?	Satisfied Neutral Dissatisfied
Q.11 How did your child compare in his educational performance with other children of his age known to you?	Superior Average Inferior
Q.12. Were there any social reasons based on caste or class discrimination which had forced you to withdraw your child from school?	.....
Q.13. Is it necessary to educate all children in a joint family ?	Yes/No

2. Social influence means behaviour among teachers and pupils, among pupils.
3. Physical facilities include seating arrangements, sanitary life in the school, first aid facilites, playground, etc.

Q.14. How much did it cost you in a year to send your child to a school ?
(i) On account of fees & funds .....

(ii) On account of books and st tionery .....

(iii) On account of dress and school uniform .....

Q.15. How did you feel about its burden ? Much / Average / Low

Q.16. Could you enumerate the causes relating to pupils that make parents to withdraw their children from school ? .....

Q.17. What were the causes which led to the withdrawal of your child from school ? .....

Q.18. Would you like to send your child back to school ? Yes/No

Q.19. (If yes)

(i) Why ? .....

(ii) What conditions and facilities would you require for that ? .....

Q.20. What has your child been doing since he left the school?
i. Is unemployed Yes/No

ii. Rears cattle Yes/No

iii. Is employed on family farm Yes/No

iv. Is employed in the non-farm family occupation Yes/No

v. Is a landless labourer Yes/No

vi. Any other capacity in which he is employed .....

Q. 21. (If he is working) How much is he able to earn every day?.....

Q. 22. How do you view education? Important

Neutral

Unimportant

Q. 23. Do you own any land ? Yes/No

Q. 24. (If yes)(a)-Please give the following information ;

	Irrigated (In Acres)	Un-irrigated (In Acres)
Land owned by you		
Land given on rent		
Land taken on rent		

(b)-What is the average annual income per acre in this village from : (i) Irrigated land.....

(ii) Unirrigated land.....

Q. 25. (If one is a landless labourer or in service)

How much are you able to earn on an average every month ? .....

Q. 26. (If one is an artisan)

What is your annual income? .....

Q. 27. (If one is a vendor or shopkeeper)

(a) What is your daily sale (amount in money) ? .....

(b) What percentage of profit do you earn on your sale ? .....

Q.28. How much other members of your family are able to earn every month ?

.....

Q.29. Please indicate the slab in which your annual family income (including your own) falls

Upto Rs.500	
Rs. 501 - Rs. 1000	
" 1001 - " 1500	
" 1501 - " 2000	
" 2001 - " 2500	
" 2501 - " 3000	
" 3001 - " 3500	
" 3501 - " 4000	
" 4001 - " 4500	
" 4501 - " 5000	
" 5001 - and above	

Q.30. What do you enjoy about your job ?

.....

Q.31. How do you spend your leisure hours ?

.....

.....

INFORMATION SHEET FOR DROP_OUT

1. Name and address of the school .....

2. Name of the pupil .....

3. Date of Birth .....

4. Caste .....

5. Male/Female .....

6. Admission No. .....

7. Class in which admitted .....

8. Month and year of admission .....

9. Class from which left .....

10. Month and year of leaving school .....

11. Whether the school leaving certificate has been issued or not ? .....Yes/No

12. Reason for leaving as recorded in the school .....

13. Place of transfer, if known : .....

14. Father's/Guardian's name .....

15. Address(Guardian's/Father's) .....

16. Distance of residence from school .....

17. Occupation .....

18. Annual income (as recorded) .....

19. Career in the school from the year of admission to that of dropping-out

Year	Class	Progress during the year			Subjects in which failed	Attendance	
		Dropped-out	Passed	Failed		Total No. of meetings	Meetings attached
1.	2	3	4	5	6	7	8

20. Details of attendance of the year in which the student dropped out

	May	June	July	Aug.	Sept.	Oct	Nov.	Dec.	Jan	Feb	Mar.	Ap
Total No of meetings												
Meetings attended												

21. Result of the last examination in which the student appeared

Class with year	Subjects	Maximum marks	Marks obtained
		Total	Total

22. If the student had not appeared in any examination tick how he was in his studies :

(i) Very good
(ii) Good
(iii) Average
(iv) Poor
(v) Very Poor

APPENDIX III | S.I....

NATIONAL INSTITUTE OF EDUCATION
NATIONAL COUNCIL OF EDUCATIONAL RESEARCH
AND TRAINING

.....

INTERVIEW SCHEDULE FOR STAY-INS
INTERVIEW SCHEDULE FOR STAY-INS' PARENTS/GUARDIANS
INFORMATION SHEET FOR STAY-INS

.....

NIE-HEW PROJECT 005

(Wastage and Stagnation in Primary and Middle Schools in India)

.....

DEPARTMENT OF EDUCATIONAL ADMINISTRATION
B-2/6A, Model Town
D E L H I-9.

Interview Schedule for Stay-ins

Name

Address

School in which the pupil is studying

Q.1 How many brothers and sisters have you? Brothers..... Sisters.....

Q.2. How many are older than you? Brothers..... Sisters.....

Q.3. Give the names of some of your classmates or friends who dropped out? (i).....
(ii) .....
(iii) .....

Q.4. Could you tell why they dropped out? (i) .....
(ii) .....
(iii) .....

Q.5. If you continue your studies how will it benefit you? .....
.....
.....

Q.6. What do you want to be when you grow up? (Occupation) .....
.....

Q.7. Could you tell me in order of preference the names of some of your classmates whom you like most? (i) .....
(ii) .....
(iii) .....

Q.8. Give the age of each of the classmates mentioned by you.

(i) .....
(ii) .....
(iii) .....

Q.9. How does each of your classmates spend his/her time throughout the day? (Probe here and record how time from morning till evening is spent).

(i) .....
.....
.....
(ii) .....
.....
.....
(iii) .....
.....
.....

Q.10. Give the names of your family members you like most.

(i) .....
(ii) .....
(iii) .....

Q.11. Give the age of each of the family members mentioned by you.

(i) .....
(ii) .....
(iii) .....

Q.12. How does each of the family members spend his/her time throughout the day? (Have similar probes here as at Q.9).

(i) .....
.....
.....
(ii) .....
.....
.....
(iii) .....
.....
.....

Q.13. Could you give me in order of preference the names of your friends in your neighbourhood whom you like most?

(i) .....
(ii) .....
(iii) .....

Q.14. Give the age of each of these friends.

(i) .....
(ii) .....
(iii) .....

Q.15. How does each of these friends spend his/her time throughout the day? (Have similar probes here as at Q.9).

(i) .....
.....
.....
(ii) .....
.....
.....
(iii) .....
.....
.....

Q.16. How does your father view education?

Important
Neutral
Unimportant

Q.17. How does your mother view education?

Important
Neutral
Unimportant

Q.18. Could you describe any incident when your father was very much pleased by what you did?

.....
.....
.....

Q.19. How did you know that he was pleased? .....

.....

.....

Q.20. Could you describe any incident when your father was most angry by what you did? .....

.....

Q.21. How did you know that he was angry? .....

.....

Q.22. Could you describe any incident when your mother was very much pleased by what you did? .....

.....

Q.23. How did you know that she was pleased? .....

.....

Q.24. Could you describe any incident which made your mother most angry by what you did? .....

.....

Q.25. How did you know that she was angry? .....

.....

Q.26. Could you remember any incident which got you in trouble in your school? .....

.....

Q.27. What was your class teacher's reaction to what you did? .....

.....

Q.28. Do you agree that teachers should be given:

i. authority to give physical punishment to students? Yes/No

ii. authority to impose fines only? Yes/No

iii. no authority? Yes/No

Q.29. (If the response is that no authority should be given to the teacher) What action would you suggest against a teacher who gives punishment? .....
.....
.....

Q.30. How does your teacher treat his/her students?
Kindly
Harshly
Can not say

Q.31. Is your teacher competent in teaching?
Competent
Incompetent
Average

Q.32. Is your teacher strict?
Yes
No
Can not say

Q.33. Does your teacher take interest in you?
Yes
No
Can not say

Q.34. Are you a monitor or some other student leader in your school? Yes/No

Q.35. (If yes) State what? (Probe here if he is frequently asked to collect answer books, bring chalk from office, etc). .....
.....
.....

Q.36. What are the co-curricular activities in which you participated? .....
.....

Q.37. Are you married? Yes/No

(ii) (If yes) Give the month and year of marriage. Month..... Year.....

INTERVIEW SCHEDULE FOR STAY-INS' PARENTS/GUARDIANS

Q.1. Name and address of the school .....

Q.2. Name of the stay-in .....

Q.3. Father's/Guardian's name and address .....

.....

Q.4. Relationship to the student .....

Q.5.(i) Caste..... (ii) Sub-Caste.....

Q.6. Family data

Family members (living)	Age	Occupation	Can read	Can write	Educational qualification	Relationship to child		Remarks
						Real	Step	
1	2	3	4	5	6	7		8
Father								
Mother								
Brothers								
Sisters								
Other family[1] members								
.....								
.....								

1 Family includes all the persons whose meals are cooked on the same hearth 'Chuhla'.

Q.7. (i) Are you satisfied with the standard of instructions in the school?

Satisfied

Neutral

Dissatisfied

(ii) (If not) Why?

.....

.....

Q.8. Do you consider the social influence[2] in the school satisfactory?

Satisfactory

Neutral

Unsatisfactory

Q.9. Do you think that teacher's behaviour towards your child is sympathetic?

Sympathetic

Neutral

Apathetic

Q.10. Are you satisfied with the physical facilities[3] available to your child in the school?

Satisfied

Neutral

Dissatisfied

Q.11. How does your child compare in his educational performance with other children of his age known to you?

Superior

Average

Inferior

Q.12. Is it necessary to educate all children in a joint family?

Yes/No

Q.13. How much does it cost you in a year to send your child to school?

(i) On account of fee & funds .....

(ii) On account of dress and school uniform .....

(iii) On account of books and stationery .....

2. Social influence means behaviour among teachers, between teachers and pupils, among pupils.
3. Physical facilities include seating arrangements, sanitary life in the school, first aid facilities, playground, etc.

Q.14. How do you feel about its burden? Much / Average / Low

Q.15. Could you enumerate the causes relating to pupils that make parents to withdraw their children from school? .....

.....

.....

Q.16. How do you view education? Important / Neutral / Unimportant

Q.17. Do you own any land? Yes/No

Q.18. (If yes) (a) Please give the following information:

	Irrigated (In Acres)	Un-irrigated (in Acres)
Land owned by you		
Land given on rent		
Land taken on rent		

(b) What is the average annual income per acre in this village from:

1. Irrigated land.....
2. Unirrigated land....

Q.19. (If one is a landless labourer or in service)

How much are you able to earn on an average every month? .....

Q.20. (Ifone is an artisan)

What is your annual income? .....

Q.21 (If one is a vendor or a shopkeeper)

(a) What is your daily sale (amount in money)? .....

(b) What percentage of profit do you earn on your sale? .....

Q.22. How much other members of your family are able to earn every month? .....

Q.23. Please indicate the slab in which your annual family income (including your own)falls.

	Up to Rs.500
	Rs. 501 - Rs. 1000
	Rs.1001 - Rs.1500
	Rs.1501 - Rs.2000
	Rs.2001 - Rs.2500
	Rs.2501 - Rs.3000
	Rs.3001 - Rs.3500
	Rs.3601 - Rs.4000
	Rs.4001 - Rs.4500
	Rs.4501 - Rs.5000
	Rs.5001 - and above

Q.24. What do you enjoy about your job? .....

Q. 25. How do you spend your leisure hours? .....

INFORMATION SHEET FOR STAY-INS

1. Name and address of the school .....

2. Name of the pupil .....

3. Date of birth .....

4. Caste .....

5. Male/Female .....

6. Admission No. .....

7. Class in which admitted .....

8. Month and year of admission .....

9. Class in which studying .....

10. Father's/Guardian's Name .....

11. Address(Guardian's/Father's) .....

12. Distance of residence from school.....

13. Occupation .....

14. Annual income (as recorded) .....

15. Career in the school from the year of admission till December, 1964.

Year	Class	Progress During the Year		Subjects in which failed	Attendance	
		Passed	Failed		Total No. of meetings	Meetings attended
1	2	3	4	5	6	7

16. Details of attendance from the beginning with the academic session 1964 to December, 1964

	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apl.
Total No. of meetings												
Meetings attended												

17. Result of the last examination in which the student appeared

Class with year	Subjects	Maximum Marks	Marks Obtained
	Total		Total

18. If the student has not appeared in any examination tick how he is in his studies:

i. Very good
ii. Good
iii. Average :
iv. Poor
v. Very poor

APPENDIX IV

National Institute of Education

NATIONAL COUNCIL OF EDUCATIONAL RESEARCH AND TRAINING

INTERVIEW SCHEDULE FOR TEACHERS

NIE-HEW Project 005

(Wastage and Stagnation in Primary and Middle Schools in India)

DEPARTMENT OF EDUCATIONAL ADMINISTRATION

B-2/6A, Model Town,

DELHI

INTERVIEW SCHEDULE FOR TEACHERS

Name and address of the School. .....

Name of the teacher. .....

Q.1. What are the causes which in general lead to student withdrawal? .....
.....
.....
.....
.....
.....

(The causes you have given can probably be classified as related to (i) pupils; (ii) parents and family (iii) community and (iv) school. Let us begin discussing the pupil).

1. PUPIL

Q.2. Physical ailments:

(i) Do pupils dropout because of physical illness? Yes/No

(ii) (If yes) What physical ..... ailments make students to dropout?
.....

(iii) What percentage of the total number of dropouts is due to physical ailments.? .....

Q.3. Mental retardation:

(i) Do pupils dropout because of mental retardation? Yes/No

(ii) What are the signals ..... you use to identify mentally retarded students? .....

(iii) What percentage of the total number of dropouts is due to mental retardation (low intelligence)?

Q. 4. Academic backwardness

(i). What are the subjects in which students who dropout usually fail?

(ii) What is the percentage of such students to the total number of dropouts ?

Q. 5. Social difficulties:

(i). Do pupils dropout due to social difficulties ? Yes/No

(ii) (If yes) What signals do you use to identify a socially maladjusted child (i.e. difficulties in relationships and adjustments with classmates due to any reason : eg. dirty habits, being over age and under age, caste, occupation of the father etc.)

(iii) What percentage of the total number of dropouts is due to social difficulties?

Q. 6. Emotional Problems.

(i) Do pupils dropout due to emotional difficulties ? Yes/No

(ii) (If yes) What are the signs you observe in a child to rate him as one emotionally disturbed ?

(iii) What is the percentage of the emotionally disturbed dropouts to the total number of dropped out students

II FAMILY

Q. 7. Family diffculties.

(i) What are the family difficulties which make students to dropout? .....

.....

.....

.....

.....

(ii) What percentage of the total number of dropouts leave due to

(a) poverty .....

(b) family disorder? .....

(c) parental illness ? .....

(d) emotional difficulties of parents? .....

Q. 8. (i) is there any other family factor due to which students dropout? Yes/No

(ii) (If yes) state these factors. (i).....

(ii).....

(iii).....

(iii) Give the percentage of dropout due to each. (i).....

(ii).....

(iii).....

III COMMUNITY

Q. 9. : Are the following factors at community (village) level related to dropout ?

(i) Income level of the community Yes/No

(ii) Occupational pattern Yes/No

(iii) Caste structure Yes/No

(iv) Educational level Yes/No

(v) Distance from a city Yes/No

(vi) Size Yes/No

(vii) Material culture (Number of radios, cycles, etc, in the village) Yes/No

IV SCHOOL

Q. 10(i) Do you think that syllabus has anything to do with dropout ? Yes/No

(ii) If yes, how ? .....

.....

.....

.....

.....

(iii) What are your suggestions to improve the syllabus ? .....

.....

.....

.....

Q. 11.(i) Are co-curricular activities in a school related to dropout? Yes/No

(ii) (If yes) how ? .....

.....

.....

Q. 12. (i) Is teacher behaviour related to dropout ? Yes/No

(ii) (If yes), describe what type of teacher-behaviour leads to drop out ? .....

.....

.....

Q. 13. Could you indicate any other factor related to school that leads to drop out? .....

.....

.....

Q. 14. How do most of the dropouts view education ?

(i) Most important
(ii) important
(iii) neutral
(iv) unimportant,
(v) useless

Q. 15. Any other thing you would like to add about the causes of dropout. .....

.....

.....

.....

.....

.....

.....

.....

.....

APPENDIX V

Project: NIE-HEW 005

(Wastage and Stagnation in Primary and Middle Schools in India)

Scoring key for pupil variables in respect of dropouts and stayins

Variable	Score	Qs. in D.O. Interiew Schedule	Qs. in S.I. Interiew Schedule	Qs. in Informa-tion Sheet for D.O.	Qs. in Informa-tion Sheet for S.I.
1	2	3	4	5	6
V 1. INTEREST IN EDUCATION		11,14 & 17	9,12 & 15		
Classification of activities into:					
Educationally relevant	3				
Educationally rautral	2				
Educationally irrelevant	1				
V 2. PUPIL'S PERCEPTION OF HIS PARENTS' VIEW OF EDUCATION		18 & 19	16 & 17		
Rating the view on a 3-point scale as under:					
Important	3				
Neutral	2				
Unimportant	1				
V 3. MOTIVATION FOR LEARNING FROM HOME		20,22 24 - 26	18,20 22 & 24		
Incidence to be classi-fied as under:					
Educationally relevant	3				
Educationally neutral	2				
Educationally irrelevant	1				
V 4. MOTIVATION FOR LEARNING FROM SCHOOL		28,36 & 38	26,34 & 36		
Q.28 (D.O.) & Q.26 (S.I.)		Incidence to be classified and scored as for V 3.			
Leadership assignments held in school :					

1	2	3	4	5	6
Q.36 (D.O.) & Yes Q.34 (S.I.) No	1 0				
Participating in Co-curricular activities:					
Q.38 (D.O.) & Q.36 (S.I.)					
Does not participate	0				
Participates in one activity	1				
Participates in two activities	2				
Participates in three activities	3				
Participates in four activities or more than four activities	4				
V 5. **PUPIL'S PERCEPTION OF TEACHER AS AN AUTHORITY**		30,32 - 35	28 & 30-33		
Q.30 (D.O.) & Yes Q.28 (S.I.) No	1 0				
Q.32 (D.O)) & Kindly Q.30 (S.I.) Harshly cannot say	3 1 2				
Q.33 (D.O.) & Competent Q.31 (S.I.) Incompetent Average	3 1 2				
Q.34 (D.O.) & Yes Q.32 (S.I.) No cannotsay	1 3 2				
Q.35 (D.O.) & Yes Q.33 (S.I.) No cannot say	3 1 2				
V 6. **AGE AT THE TIME OF ADMISSION TO SCHOOL**		Qs.3,7 & 8	Qs.3,7 & 8		
a) **Age at the time of admission in Class I**					
upto 6 years	4				
7 - 8	3				
9 - 10	2				
11 and above	1				

1	2	3	4	5	6

b) Age at the time of admission in Class VI*

upto 10 years	4
11 - 12	3
13 - 14	2
15 and above	1

V 7. ATTENDANCE IN SCHOOL

		Q.19 (Cols. 7 & 8 of table)	Q.15 (Cols. 7 & 8 of table)
upto 60%	1		
61-70%	2		
71-80%	3		
81-90%	4		
91-100%	5		

V 8. ACADEMIC PERFORMANCE

		Qs.21 & 22	Qs.17 & 18
Below 30% (Very Poor)	1		
31-40% (Poor)	2		
41-50% (Average)	3		
51-60 % (Good)	4		
Above 60% (Very Good)	5		

Scoring key for family variables in respect of dropouts and stayins

Variable	Score	Qs. in D.O. Parents' Schedule	Qs. in S.I. Parents' Schedule
1	2	3	4
V 1. CASTE**		Q.5(i) & (ii)	Q.5(i) & (ii)
Brahmin	5		
Kashatriya	4		
Vaish	3		
Backward class	2		
Scheduled Caste/ Scheduled Tribe	1		

*For pupils of Maharashtra, age at the time of admission in Class V may be taken because of variation in the system of school classes.

**Muslims and Christians may be left out because the caste system is not so pronouneed among them.

1	2	3	4
V 2 STRUCTURE OF FAMILY		Q.6(1)	Q.6(1)
Both alive	3		
One alive	2		
Both dead	1		
V.3 SIZE OF FAMILY		Q.6(1)	Q.6(1)
Small (upto 5)			
Medium (upto 7)			
Large (above 7)			
V 4 TYPE OF FAMILY		Q.6(1)	Q.6(1)
Joint family	2		
Nuclear family	1		
V 5 ORDER OF BIRTH AMONG SIBLINGS		Q.6(1)*	Q.6(1)*
Only child	1		
First born	2		
Others (second born, third born and so on)	3		
V 6 AGE OF PARENTS		Q.6(2)	Q.6(2)
Below 30 years	5		
31-40	4		
41-50	3		
51-60	2		
61 and above	1		
V 7 OCCUPATION OF PARENTS		Q.6(3)	Q.6(3)
a) Executive and scientific/technical personnel (degree holder or equivalent; various types of officers; physicist, analyst, chemist etc.; professional like doctor, lawyer, lecturer, professor, etc.	5		

* This may be read under Qs. 1 & 2 of D.O. and S.I. Schedules.

1	2	3	4
b) Ordinary administrative staff; clerk, stenographer, cashier, record keeper, school teacher, retail shop employee, etc.	4		
c) Skilled and Semi-skilled manual workers of all types: foreman, mechanic, fitter, electrician, factory worker, craftsman etc.	3		
d) Tenant, cultivator, peasant proprietor, owner of small business like retail shop (grocery, tailoring shop, hair cutting salon), hawker, peddlar, etc.	2		
e) Unskilled workers: peon, cooly, sweeper, factory worker, landless labourer, etc.	1		
V 8. *EDUCATIONAL STATUS OF FAMILY		Qs.6(4), 6(5) & 6(6)	Qs.6(4) 6(5) & 6(6)
Can read	1		
Can write	1		
Educational qualifications:			
For each completed/ successful year of education (both academic as well as professional)	1		
V.9. PARENTS' VIEW OF PHYSICAL FACILITIES ETC. IN SCHOOL		Qs.7(1)-10	Qs.7(1)-10
Q.7(1)(D.O. & S.I.)			
Satisfied	3		
Neutral	2		
Dissatiafied	1		

* Average score may be worked out.

1	2	3	4
Q.8(D.O. & S.I.)			
Satisfactory	3		
Neutral	2		
Unsatisfatory	1		
Q.9(D.O. & S.I.)			
Sympathetic	3		
Neutral	2		
Apathetic	1		
Q.10(D.O. & S.I.)			
Satisfied	3		
Neutral	2		
Dissatisfied	1		
V 10 PARENTS' VIEW OF CHILD'S EDUCATIONAL PERFORMANCE		Q.11	Q.11
Superior	3		
Average	2		
Inferior	1		
V 11 PARENTS' FEELING ABOUT THE COST OF EDUCATION (BURDONSOME OR NOT)		Q.15	Q.14
Much	1		
Average	2		
Low	3		
V12 PARENTS' PERCEPTION OF THE VALUE OF EDUCATION		Q.22	Q.16
Important	3		
Neutral	2		
Unimportant	1		
V 13 ANNUAL INCOME OF FAMILY		Q.29	Q.23
upto Rs.1,000	1		
Rs.1,001-Rs,2,000	2		
Rs.2,001-Rs.3,000	3		
Rs.3,001-Rs.4,000	4		
Rs.4,001- and above	5		

APPENDIX - VI

NATIONAL INSTITUTE OF EDUCATION
(National Council of Educational Research & Training)

CAUSES OF DROP-OUT AT PRIMARY AND MIDDLE STAGES OF EDUCATION --- AN OPINIONNAIRE

NIE --- HEW PROJECT 005
(Wastage and Stagnation in Primary and Middle Schools in India)

DEPARTMENT OF EDUCATIONAL ADMINISTRATION
B-2/6A, Model Town,
D E L H I - 9.

AT -

LAT

DIRECTIONS FOR FILLING IN THE OPINIONNAIRE ON CAUSES OF DROP-OUT/THE PRIMARY AND MIDDLE STAGES OF EDUCATION.

In the accompanying opinionnaire, 75 statements are given which explan the possible causes of drop-out at Primary and Middle stages of education, You are requested to give your opinion about each of these statements by putting a tick mark (✓) in the cell that you feel appropriate, for primary and middle stages separately.

Illustration:

Suppose you have to check a statement: "Pupils drop-out from school because they have no aptitude for education" and you feel that this statement is 'very important' for primary stage, and 'important' for middle stage, you should put a tick mark (✓) under the cell 'very important' for primary stage and the cell 'important' for middle stage against this statement:

Primary Stage					STATEMENT	Middle Stage				
Most important	Very important	Important	Less important	Least important		Most important	Very important	Important	Less important	Least important
	✓				Pupils drop-out from school because they have no aptitude for education			✓		

1. Kindly give your opinion in respect of all the statements.

CAUSES OF DROP-OUT AT THE PRIMARY AND MIDDLE STAGES OF EDUCATION

PRIMARY STAGE					STATEMENTS	MIDDLE STAGE				
Most important	Very important	Important	Less important	Least important		Most important	Very important	Important	Less important	Least important
					Pupils dropout from school because:					
					1. they have low general intelligence;					
					2. they lack interest in education;					
					3. they are poor in studies;					
					4. they fail repeatedly in the examination;					
					5. they have poor study habits;					
					6. they have unpleasant relationship with their classmates;					
					7. they have poor reading and number abilities;					
					8. they perceive their teachers as unkind;					
					9. they perceive their teachers as incompetent;					
					10. they are overaged in their class;					
					11. they are underaged in their class;					
					12. they have poor health and suffer from long illness;					
					13. they are physically handicapped;					

PRIMARY STAGE					STATEMENTS	MIDDLE STAGE				
Most important	Very important	Important	Less important	Least important		Most important	Very important	Important	Less important	Least important
					14. they keep company with bad children.					
					15. they attain puberty earlier than their other classmates;					
					16. they desire to secure a job immediately*;					
					17. they are needed at home to look after youngsters;					
					18. they come from authoritarian homes*;					
					19. they come from homes with large families;					
					20. they feel their parents are not interested in educating them;					
					21. they feel their teachers do not take interest in them;					
					22. they are the first born children;					
					23. they are the last born children and parents pamper them;					

* "Desire to secure a job immediately" implies that the child wants to become economically independent of his/her parents/guardians.

** "Authoritarian homes" mean such homes where the parents are not considerate towards their children.

PRIMARY STAGE						MIDDLE STAGE				
Most important	Very important	Important	Less important	Least important	STATEMENTS	Most important	Very important	Important	Less important	Least important
					24. they are the only children of their parents and parents pamper them;					
					25. they have lost thier fathers;					
					26. they have lost their mothers;					
					27. they have lost their parents;					
					28. they remain busy in domestic work and do not find sufficient time for study;					
					29. they are betrothed or married early;					
					30. their relationships with other family members are unpleasant;					
					31. their parents live in poor social environment*;					
					32. their parents are too poor to bear the cost of education;					
					33. their parents are too poor to provide them with sufficient food;					
					34. their parents are too poor to provide them with proper clothing;					
					35. their parents need their help to supplement family income;					

*"Poor social environment" will include slum areas, prostitution areas etc. where the members of the community have low educational status, low caste and low occupation.

PRIMARY STAGE					STATEMENTS	MIDDLE STAGE				
Most important	Very important	Important	Less important	Least important		Most important	Very important	Important	Less important	Least important
					36. their Parents have low educational status;					
					37. their family members (other than parents) have low educational status;					
					38. their parents do not feel the necessity of educating all children in the family;					
					39. their parents are alive but the children live with their relatives;					
					40. one or both of their parents remains continuously sick;					
					41. their parents belong to low caste;					
					42. their parents are engaged in low class occupations;					
					43. their parents place low value on education;					
					44. their parents are not satisfied with the standard of instruction in the school;					
					45. their parents are not satisfied with the physical facilities in the school*;					
					46. their parents do not praise them on their achievement in school subjects;					

*"Physical facilities in the school" shall include school building, furniture, library books, laboratory apparatus, etc.

PRIMARY STAGE						MIDDLE STAGE				
Most important	Very important	Important	Less important	Least important	STATEMENTS	Most important	Very important	Important	Less important	Least important
					47. their parents are aged;					
					48. their parents are subjected to social taboos.*					
					49. there is "Purdah System"in girls;					
					50. their parents often quarrel; with each other;					
					51. their parents are separated;					
					52. their parents do not understand the needs and difficulties of their children;					
					53. the school has coeducation;					
					54. the school has a large number of untrained teachers;					
					55. the school has a large number of under-qualified teachers**;					
					56. the school has a large number of inexperienced teachers;					
					57. many teachers in the school are indifferent towards their profession;					
					58. the school has a high pupil-teacher ratio					
					59. the school has a defective system of examination/liberalised promotion rules;					

* "Social taboos"have a restricted meaning here and are connected with the orthodoxy of parents not to send their girls to schools.

**"Unde qualified' teachers"mean those teachers who possess less qualification than the prescribed minimum.

PRIMARY STAGE					STATEMENTS	MIDDLE STAGE				
Most important	Very important	Important	Less important	Least important		Most important	Very important	Important	Less important	Least important
					60. the school has poor physical facilities;					
					61. the school has no provision for co-curricular activities;					
					62. many teachers in the school are coming from distant homes;					
					63. many pupils are coming from distant homes;					
					64. the school is a single-teacher school;					
					65. the admissions are open throughout the year in class I;					
					66. the teachers do not understand the needs and difficulties of pupils;					
					67. the teachers do not praise pupils on thier achievement in school subjects;					
					68. the teachers do not keep up contact with pupil's parents;					
					69. the educational programme does not meet individual needs;					
					70. the school curriculum is not adjusted to the needs of the community;					
					71. many teaching posts remain unfilled in the school for a long time;					

PRIMARY STAGE						MIDDLE STAGE				
Most important	Very important	Important	Less important	Least important	STATEMENTS	Most important	Very important	Important	Less important	Least important
					72. the teachers are frequently transferred from one school to another;					
					73. the teachers are wrongly placed*;					
					74. the teachers do not assign to pupils leadership positions which they deserve; and					
					75. there is lack of community participation in school activities and vice-versa.					

Name of Respondent (in block letters) _____

Designation _____

Qualifications (both academic and professional). _____

Name of Institution in which he/she is presently working. _____

* "Wrongly placed" teachers may be considered as those who are teaching certain school subjects in which they are not qualified.

APPENDIX VII

Classification of Opionionnaire Statements into Different Clusters of Causes

Clusters of Causes		Opinionnaire Statement(Serial Nos)
PUPIL AREA		
I.	Pupil's learning difficulties	1,2,3,4,5,7.
II.	Pupil's poor health & disability	12,13
III.	Pupil's poor social adjustment	6,14, 30
IV.	Pupil's retarded emotional maturity	8,9,10,11,15,18,20,23, 24,25,26,27,39,47,50, 51,52,66
V.	Pupil's inadequate motivation for learning	21,46,67,74,
FAMILY AREA		
VI.	Family's economic needs	16,22,35,
VII.	Family's cultural backwardness	19,29,48,49,53
VIII.	Low socio-economic status of the family	31,32,33,34,41,42.
IX.	Family's disinterest in education	36,37,38,43.
X.	Excessive involvement in domestic work	17,28,40.
SCHOOL AREA.		
XI.	Sub-standard teaching personnel	54,55,56,57
XII.	Defective school organisation and administration	58,59,62,63,64,65,71, 72,73
XIII.	Inadequate physical facilities	60
XIV.	Defective School curriculum	61,69,70.
XV.	Lack of school-community relationship.	68,75

APPENDIX VIII

(a) No. of sampled schools taken from different States/Union Territories

States/Union Territories	URBAN							RURAL							GRAND TOTAL
	Primary		Total	Middle		Total	TOTAL	Primary		Total	Middle		Total	TOTAL	Primary Total	Middle Total	
	B.G.	Coed.		B.G.	Coed.			B.G.	Coed.		B.G.	Coed.					
Maharashtra	--	5	5	-2	13	15	20	--	3	3	--	3	3	6	8	18	26
Punjab	2 3	2	7	--	-	-	7	- 1	3	4	--	2	2	6	11	2	13
Rajasthan	- -	5	5	- 1	2	3	8	1 -	5	6	--	1	1	7	11	4	15
Delhi	1 3	1	5	3	2 -	5	10	1 1	7	9	- -	2	2	11	14	7	21
Himachal Pradesh	- -	3	3	1 -	2	3	6	- -	9	9	- -	2	2	11	12	5	17
Total:	3 6	16	25	4 5	17	26	51	2 2	27	31	- -	10	10	41	56	36	92

B = Boys G = Girls Coed. Coeducational

(b) No. of dropouts and stayins selected for study from different States/Union Territories

State/Union Territory	No. of Deopouts	No. of Stayins	Total
Maharashtra	267	150	417
Punjab	110	79	189
Rajasthan	136	87	223
Delhi	168	81	249
Himachal Pradesh	109	88	197
TOTAL:	790	485	1275

(c) LIST OF SAMPLED SCHOOLS.

I. MAHARASHTRA

1. Jai Prakash Road, Municipal Upper Bombay Hindi School, Ahdheri, Bombay-58.
2. Andheri Upper Bombay Municipal Marathi School No.1, Andheri, Bombay-58.
3. Andheri Municipal Urdu School, J.P. Road, Bombay-58.
4. Municipal Andheri West Gujarati Schod, Andheri, Bombay-58.
5. Municipal Petit Upper Bombay Gujarati School, Water Field Road, Bandra, Bombay-50.
6. Municipal Upper Primary Hindi School, Colaba, Bombay-5.
7. Municipal Upper Primary Gujrati School, Colaba, Bombay-5.
8. Paneswari Upper Primary Municipal Marathi School, Sita Roam Poddar Balika Vidya Bhavan, 3rd Story, Bombay-2.
9. Jayantilal Municipal Urdu School, Ghatkopar, Bombay-77.
10. Kamathi-Pura Voc. Upper Primary Municipal Marathi School, Bombay-8.
11. Kamathipura Municipal Upper Primary Gujrati School, 8th Lane, Bombay-8.
12. Kamathipura Upper Primary Municipal Hindi School, 7th Lane, Bombay-8.
13. Kamathipura Upper Primary Municipal Marathi School No.2. Bombay-8.
14. Kamathipura Municipal Corporation Telugu School, Municipal Building, 5th Suklaji Street, Bombay-8.
15. New Mill Ward Municipal Upper Primary Sindhi School, C.S.T. Road, Kurla, Bombay-70.
16. New Mill Ward Kurla Municipal Marathi Upper Primary School No.2, Bombay-70.
17. New Mill Ward Kurla Municipal Hindi Upper Primary School, Bombay-70.

18. New Mill Ward Municipal Upper Primary Gujarati School, Kurla, Municipal Bldgs, C.S.T. Road, Bombay-70.

19. Kurla Kamgar Municipal Marathi Upper Primary School, Bombay-70.

20. Mahash Municipal Marathi Upper Primary School, Via Andheri, Bombay-58.

21. Primary School (Conducted by Rao Sahib Bala Ram Gyan Deo Thakur Vidya Mandir,) Mulund, Bombay.

22. Municipal Sindhi Upper Primary School, Municipal Colony, Bombay.

23. Nahur Municipal Marathi School, Mulund, Bombay.

24. Sarang Street Upper Primary Municipal Urdu School, 117, Sarang Street, Bombay-3.

25. K.M.S. Parel Primary Schod, Parel, Bombay.

26. Bhandup Village Municipal Marathi Upper Primary School, Bhandup, Bombay-78.

II. PUNJAB.

1. Government Middle School, Shamgarh.
2. Govt. Middle School, Jundla.
3. Govt. Primary School No.9, Model Town, Karnal.
4. Govt. Girls Primary School No.1, Karnal.
5. Govt. Primary School No.1, Bansgate
6. Govt. Girls Primary School No.2, Karnal.
7. Govt. Girls Primary School No.3. Sadar Bazar, Karnal.
8. Govt. Girls Primary School, Kunjpura.
9. Govt. Primary School, Darar.
10. Govt. Primary School, Kailash.
11. Govt. Basic Primary School, Neelo-Kheri.
12. Govt. Primary School, Kalron.
13. Govt. Primary School No2. Gharaunda.

III. RAJASTHAN

1. Govt. Girls Middle School, Bhopalpura.
2. Govt. Primary School, Debari.
3. Govt. Basic Primary School, Railway Training School, Udaipur.
4. Govt. Basic Primary School, Chirva.
5. Vidya Bhavan Junior School (Primary Section), Udaipur.
6. Govt. Junior Model Basic School, Goverdhan Vilas.
7. Govt. Senior Model Basic School, Udaipur.
8. Govt. Primary Basic School, Bhatiyani Chohatta Udaipur.
9. Govt. Middle Girls School, Nani Gali, Udaipur.
10. Govt. Primary School, (Boys) Rao ji ka Hatta, Udaipur.
11. Govt. Primary Basic School, Balicha.
12. Govt. Primary Basic School, Bhuwana.
13. Govt. Primary Girls School, Rao ji ka Hatta, Udaipur.
14. Vidya Bhavan Middle Basic School, Ramgiri.
15. Govt. Primary Basic School, Thur.

IV. DELHI

1. M.C.Madhyamic Basic Schod, Naya Bans, Delhi.
2. M.C. Madhyamic Basic School (Boys) 1, Jama Masjid, Delhi.
3. M.C. Middle School for Boys, Tagore Road II, New Delhi-1.
4. M.C. Middle School, Jamna Bazar II (Boys), Delhi.
5. Gandhi Kanya Mahavidyalaya, Sarai Rohilla, Delhi.

6. M.C. Girls Middle School, Jamna Bazar I, Delhi.

7. M.C. Primary School (Boys), Motia Khan II, Delhi.

8. M.C. Primary School (Girls), MotiaKhan I, Delhi.

9. M.C. Girls Primary School, Chah Rahat, Delhi.

10. M.C. Primary School-15, Daryaganj, Delhi.

11. M.C. Girls Primary School, Begampur, Delhi.

12. Guru Nanak Girls Middle School, K. Kali Masjid, Delhi.

13. M.B. Primary School No.3, Mahar Road, New Delhi.

14. M.C. Senior Basic Co-educational School, Sanoth, Delhi.

15. M.C. Primary School, Singhu, Delhi.

16. M.C. Senior Basic School, Samalka, Delhi Cantt.

17. M.C. Junior Basic School, Amberhai, Delhi.

18. M.C. Primary Basic School, Gazipur, Delhi.

19. M.C. Junior Basic School (Boys), Begampur, Delhi.

20. M.C. Primary School (Boys), Chilla Saroda, Delhi.

21. M.B. Primary Co-educational School No.1, Netaji Nagar, New Delhi.

V. HIMACHAL PRADESH

1. V.D. Govt. Boys High School, Sclan.

2. Govt. Middle School, Deothi.

3. Govt. Primary School, Salogra.

4. Govt. Middle School, Krishnagarh (Kuttiar).

5. Govt. Primary School, Jagjit Nagar.

6. Govt. Primary School, Bhaugri.

7. Govt. Primary School, Darwa.

8. Govt. Girls Primary School, Taradevi.

9. Govt. Primary School, Anandpur.

10. Govt. Middle School, Dhalli.

11. Govt. Girls Primary School, Kasumpti.

13. Govt. Primary School, Rashana.

13. Govt. Primary School, Bakhalag.

14. Govt. Primary School, Kotli.

15. Govt. Primary School, Sanam.

16. Govt. Primary School, Manjat.

17. Govt. Girls Middle School, Rampur.

APPENDIX IX.

State-wise Results of Chi-square (X^2) on Different Pupil and Family Variables.

Variables.	Maharashtra X^2	df	Punjab X^2	df	Rajasthan X^2	df	Delhi X^2	df	Himachal Pradesh X^2	df
1	2	3	4	5	6	7	8	9	10	11
1. Academic Performance	162.00**	4	35.30**	3	59.00**	4	28.75**	4	51.93**	4
2. Age of Admission to Grade I	47.00**	5	16.15**	4	32.58**	5	18.50**	3	22.02**	4
3. Age of Admission to Grade VI	35.79**	3	7.43	3	2.74	2	3.68	3	3.64	3
4. Activities of Preferred Associates	70.81**	4	31.93**	3	21.33**	3	42.75**	4	2.94	3
5. Activities of Preferred Family Members	78.07**	4	18.48**	3	2.00	3	22.07**	4	2.48	3
6. Perception of Teacher's Bahaviour	12.16**	2	0.16	2	0.88	2	67.50**	2	8.37**	2
7. Perception of Teaching Ability of Teachers	8.46**	1	1.49	1	2.44	2	215.13**	2	4.06*	1
8. Activities on which Rewarded by Fathers	85.46**	2	33.25**	1	26.43**	2	12.91**	2	31.21**	2
9. Activies on which Rewarded by Mothers	45.97**	2	14.38**	2	22.10**	2	8.61*	2	3.41	2
10. Activities on which Punished by Father	20.61**	2	1.29	2	1.64	2	0.41	2	0.09	2
11. Activities on which Punished by Mother	22.34**	2	1.26	2	.09	2	0.05	2	0.50	2

1	2	3	4	5	6	7	8	9	10	11
12. Activities on which Punished in School	19.36**	2	1.84	2	7.82*	2	6.62*	2	0.25	1
13. Leadership Assignments held in school	49.58**	1	15.22**	1	25.85*	1	32.41**	1	4.73	1
14. Perceitpion of Father's View of Education	15.02**	2	43.93**	2	12.87**	2	27.52**	2	14.69**	81
15. Perception of Mother's View of Education	9.24**	2	50.34**	2	30.67**	2	16.71**	2	3.89*	1
16. Size of Family	7.08	4	1.16	2	13.49**	3	1.27	3	9.54*	3
17. Order of Birth Anong Siblings	3.33	3	0.26	3	7.51	3	8.71*	3	9.25*	3
18. Structure of Family	8.29**	1	12.66**	1	1.04	1	2.46	1	15.04**	1
19. Type of Family	32.17**	1	0.62	2	0.31	1	7.65**	1	3.84*	1
20. Caste Structure of Family	31.98**	3	4.49	3	24.41**	3	18.35**	3	24.22**	3
21. Occupational pattern of Parents	5.80	4	34.90**	4	22.34**	4	15.32	4	15.30	4
22. Educational Status of all parents	67.35**	3	41.54**	2	10.23*	3	27.18**	2	29.92**	3
23. Educational Status of Family Members	25,69**	2	47.16**	2	16.88**	3	31.52**	3	19.51**	2
24. Annual Income of Family	49.96**	10	26.48**	10	15.70*	6	10.38**	8	6.97	6
25. Age of Parents	22.77**	4	2.42	4	0.64	2	2.06	3	6.01	4
26. Parents' Perception of Educational Performance of Their Children	82.66**	2	43.78**	2	35.65**	2	24.55**	2	24.86**	2

1	2	3	4	5	6	7	8	9	10	11
27.Parents' View of Physical Facilities in School	7.17**	1	3.96	2	1.23	2	0.53	1	0.23	2
28.Parents' View of Social Influence in School	7.17 **	1	4.56	1	6.06*	2	2.05	1	0.37	1
29.Parents' Perception of Value of Education	10.41**	1	29.24**	1	15.25**	2	4.15*	1	1.13	1
30. Parents' Feeling about the cost of Education	2.11	2	16.84**	2	4.71	2	9.21**	2	5.48*	1

* Significant at .05 level

**Significant at .01 level

APPENDIX X

State-wise 't' Values on different pupil and family variables.

Variable	't' values for States/Union Territories					Combined
	Maharashtra	Punjab	Rajasthan	Delhi	H.Pradesh	
1	2	3	4	5	6	7
1. Interest in education	8.44	7.62	4.16	7.01	6.50	11.93
2. Pupil's perception of his parents' view of education	4.63	8.26	3.64	4.13	5.15	7.17
3. Motivation for learning from home	2.12*	13.14	5.86	1.73+	6.44	6.23
4. Motivation for learring from school	6.80	6.04	6.34	4.71	3.51	12.50
5. Pupil's perception of teacher as an authority.	8.58	1.91+	2.97	7.68	3.48	7.04
6. Age at the time of admission to school.	6.48	5.13	6.08	5.10	5.12	12.54
7. Attendance in School.	18.83	10.69	16,69	18.65	10.62	32.78
8. Academic Performance	14.62	6.37	6.28	5.34	8.18	18.19
9. Caste	9.20	2.19*	2.06*	5.29	4.26	10.17
10. Structure of Family	4.26	2.83	0.48+	2.62	3.82	6.60
11. Size of Family	-2.46*	-.09+	-2.72	-1.69+	-3.05	-4.22
12. Type of Family	5.27	0.76	0.42	1.06+	1.94+	4.41
13. Order of birth among siblings	0.39+	1.08+	3.14	1.73+	3.99	4.18

1	2	3	4	5	6	7
14. Age of Parents	4.89	1.15+	0.49+	0.71+	2.36*	4.59
15.Occupation of parents	1.52+	3.86	2.96	1.00+	4.20	4.78
16. Educational Status of family	1.88+	7.44	3.03	4.78	4.65	9.18
17. Parents' View of physical facilities in school	4.30	1.93+	2.52*	1.07+	0.96+	4.22
18. Parents' View of child's educational performance	11.01	7.45	6.84	4.69	6.09	15.97
19. Parents' feeling about the cost of education	-7.37	-2.20*	-.059+	4.32	1.89+	- 2.25*
20. Parents' perception of the value of education	-7.23	6.44	3.83	3.86	0.77+	-1.42+
21. Annual Income of family	5.84	2.26*	2.69	4.15	1.56+	7.08

* Significant at .05 level

+ Not significant

Value without any sign are significant at .01 level

REFERENCES

1. Asian Institute of Educational Planning and Administration, New Delhi. Wastage and Stagnation in School Education - A Pilot Study. Publication No.16, 1965.

2. Atkinson John W. Motives in Fantacy Action and Society D.Van Nostrand Company (Canada) Ltd., 1958.

3. Bombay Education (Directorate of .....) Research Unit : Wastage and Stagnation in Primary Schools - Report of - Summary : Indian Journal of Educational Administration and Research, Autumn, 1960.

4. Bombay provincial Board of Primary Education. Report on Stagnation and Wastage in Primary Schools. Government Printing and Stationery, Bombay, 1941.

5. Chickermane, D.V. A Study of Wastage in Primary Education in India. Education and Psychology Review Baroda, M.S. University, Vol.2, January,1962.

6. Chickermane, D.V. Influence of Home Circumstances on Wastage in Primary Education. Education and Psychology Review Baroda, M.S. University. Vol.2, July, 1962.

7. Chitkara, R.S. Wastage and Retardation in Education, Ministry of Education, Government of India (Publication No.533), 1961.

8. Chowdhury, P. Report on an Investigation into the Problem of Wastage and Stagnation in Primary Schools in the District of 24 Parganas. June-July,1965.

9. Gadgil D.R., Dandekar, V.M. Report of Two Investigations - Primary Education in Satara District. Gokhale Institute of Politics and Economics, Poona (Publication No.32), 1955.

10. Ganz Madelaine. The Psychology of Alfred Adler and the Development of the Child, London, Routledge and Kegan Paul Ltd., 1953.

11. Hilgard Earnest R: Russel, David H. Motivation in School Learning, The Forty-Ninth Year Book of the N.S.S.E. Illinois, The University of Chicago Press, 1950.

12. India, Education, (Ministry of Education Government of India).
    (a) " " 1950-51 Vols. I and II
    (b) " " 1951-52 Vols. I and II
    (c) " " 1952-53 Vols. I and II
    (d) " " 1953-54 Vols. I and II
    (e) " " 1954-55 Vols. I and II
    (f) " " 1955-56 Vols. I and II
    (g) " " 1956-57 Vols. I and II
    (h) " " 1967-58 Vols. I and II
    (i) " " 1968-59 Vols. I and II
    (j) " " 1960-61 Vols. I and II
    (k) " " 1961-62 Vols. I and II

13. Interim Report of the Indian Statutory Commission. Review of Growth of Education in British India by the Auxiliary Committee (The Hartog Committee) appointed by the Commission, Delhi. The Manager, Government of India Press, 1929.

14. Lindquist, E.F. Design and Analysis ofExperiments - Psychology and Education, Boston, Houghton Mifflin Company, 1953.

15. Ministry of Education, India. Report of the National Committee on Women's Education, Delhi. The Manager of Publications, Government of India, 1959.

16. National Council of Educational Research and Training, The Study of Costs of Education in India, Educational Expenditure in India (1950-51 to 1960-61). Monograph No.1 (Mimeographed) New Delhi, 1963.

17. Prakasha, Veda. Stagnation and Wastage, Elementary Education, Second Yearbook. The Indian Year Book of Education, National Council ofEducational Research and Training, New Delhi, 1964.

18. Sapra, C.L. Wastage and Stagnation at the First Level of Education in India (Memographed Report presented at Unesco seminar held at Bangkok, September 5-12, 1966), Ministry of Education, Government of India, 1966.

19. Sharp, H. Progress of Education In India, 1907-1912. Sixth Quinquinnial Review, Superintendent, Government Printing, Calcutta, 1914.

20. Siegel Sidney. Non-Parametric Statistics for the Behavioural Sciences, New York, McGraw Hill Book Co., Inc. 1956.

21. The Constitution of India, Delhi. The Manager of Publications, Government of India, 1949.

22. Urdal, Lloyed B. and Others. Dropouts - An Analysis of Personal Variables within the School Situation, Louis Bruno, State Superintendent of Public Institution, Olympia, Washington, 1963.

23. Walker, H.M. Statistical Inference, Oxford & IBH Publishing Co., 1965.

24. Wert, James E., Neidt O, Charles and Ahmann Stanley J. Statistical Methods in Educational and Psychological Research, Appleton - Century Crofts, Inc., New York, 1954.

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